A TREATISE

ON

VETERINARY MEDICINE,

IN FOUR VOLUMES.

VOL. IV.

CONTAINING

OBSERVATIONS ON THE DISEASES

OF

OWS, SHEEP, SWINE, AND DOGS:

ALSO,

PARTICULAR DIRECTIONS FOR PERFORMING THE MOST IMPORTANT OPERATIONS IN FARRIERY;

ILLUSTRATED BY SEVERAL PLATES:

ND REMARKS ON THE EPIDEMIC CATARRH, COMMONLY CALLED DISTEMPER, IN HORSES:

Vith some additional Observations on certain Diseases of the Horse's Eye.

BY JAMES WHITE,

VETERINARY SURGEON, OF EXETER.

SECOND EDITION,

ORRECTED, AND MATERIALLY IMPROVED.

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NTED FOR LONGMAN, HURST, REES, ORME, AND BROWN; BALDWIN, CRADOCK, AND JOY; SHERWOOD, NEELY, AND JONES; T. TEGG; AND SIMPKIN ANI MARSHALL.

1818.

TO

PETER HIBBERT, Esq.

OF

HORSEWELL HOUSE, KINGSBRIDGE.

SIR;

THE following attempt to give a clear description of the Operations of Farriery, and the method of treating the Diseases of Cattle, originated in some remarks you were so kind as to make on the First Volume of my VETERINARY MEDICINE. As it has been favourably received by the Public, I trust, that, in dedicating it to you, I shall not be thought to take an improper liberty.

I am, Sir,

Your most obedient Servant,

THE AUTHOR.

EXETER
December, 1817.

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that, for every disease, there is an infallible remedy, termed a receipt; and the more numerous the ingredients are in that receipt, the higher opinion have they of it's efficacy. Upon this principle, perhaps, it is, that the cow-doctor, or cow-leech, as he is commonly termed, generally obtains their confidence; while the veterinarian, who adopts a more simple mode of treatment, relying wholly, perhaps, upon bleeding and a proper regulation of diet, does not appear to them sufficiently skilful; and any attempt he may make to explain the nature of the disease, or the principle upon which he acts, would be quite unintelligible. With respect to the qualifications of those cow-doctors, it is unnecessary to say much; in the operative part of the art, they are useful in a certain degree; that is, in the common operations, such as castration, spaying, &c.: but as to the operations, that may be necessary, in consequence of accidents, and of the treatment of dangerous wounds, they are miserably ignorant, and often do harm, by employing violent applications, when the most soothing treatment only is proper.

With respect to cattle-doctoring books, they are in general nearly upon a par with cattle-

doctors; and, perhaps, of the two, the latter may with least danger be consulted. The best book I have seen of the kind is "A Treatise on Cattle Medicine," by John Lawrence; and, though I do not perfectly agree with him in the medical treatment of the animal, I think his remarks on the *prevention* of disease are valuable, and ought to be read by every one interested in the subject. I shall take the liberty of transcribing one of his observations, which, if duly attended to, may prevent a great deal of unnecessary expense to such proprietors of cattle as place confidence in the skill of cow-doctors, or the absurd and expensive receipts recommended in cow-doctoring books.

"It should be considered, that animals, living in a state of nature, regulated by the reason and experience of man, would be almost wholly exempt from disease; that their appetites, unlike our own, may be held under a constant control; that their diseases result purely from the negligence or erroneous treatment of their owners. They are either exposed too much to the rigours and changes of the weather, or they are gorged with food, denied a sufficient quantity, or supplied with

such as is unwholesome. Here we learn the chief causes of their maladies. LEARN TO PREVENT THEM, instead of undertaking the tedious, unsuitable, and hopeless task, of learning to cure them. Of all things, let the proprietors of cattle renounce for ever the insane folly of offering premiums for curing *incurable* diseases, and the hope of providing medicines, which, by a sort of miraculous operation, will enable men to continue in the habit of exposing their animals to the constant risk of such diseases. I have no infallibie receipts to offer; on the contrary, I wish to impress my readers strongly with the idea, that all *infallible receipts are infallible nonsense.*"

This is certainly very excellent advice; and having, since the first edition of this book was published, resided for some time in a part of Somerset where many large dairies are kept, I have met with many instances in which it's utility was strikingly confirmed. Almost all the diseases of cattle arise, either from exposure to wet and cold weather, from their food being of a bad quality, or deficient in quantity, or from being changed too suddenly from poor unwholesome keep to richer pasture. It is necessary to observe also, that the animal is

more liable to be injured by exposure to wet and cold, when previously enfeebled by bad keep, old age, or any other cause, and particularly when brought from a milder and more sheltered situation. I have scarcely met with a disease, that is not attributed, by those who have the care of cattle, to a chill; and, under this impression, the most stimulating medicines are usually employed; among which we generally find grains of Paradise, ginger, long pepper, and mustard, in *large* doses. It unfortunately happens, that the disorders arising from a *chill* are often of an inflammatory nature, and require a very different treatment. It must be granted, however, that cattle more frequently require stimulating medicines than horses; and that bleeding is not so often required, nor can it be carried to such an extent in the former as in horses; particularly in milch cows. (See the Author's Veterinary Dictionary, Article *Chill.*) Many of the medicines, of which their *drinks* or *drenches* are composed, are quite inert, some are nearly so, and others are very nasty. Hog's dung, stale urine, and a pint of the animal's own blood, mixed with salt, are generally held in high estimation.

In speaking of books on cattle medicine, I do not allude to tracts, which have been occasionally published by learned men, on epidemic diseases prevailing at the time; such as that by Dr. Layard on the Murrain; but of such books as are professedly written on the diseases of cattle; as, "The complete Cattle Doctor," &c.: the greater part of which appear to have been manufactured, in London, by persons totally unacquainted with the subject. One might imagine, from reading books of this kind, that these unfortunate animals were subject to an almost endless variety of diseases; and the strange names, by which they are designated, would, perhaps, deter the student from entering upon the Herculean undertaking of learning an art apparently so intricate. But, in fact, their diseases are by no means numerous; and an attentive person, previously acquainted with the animal economy and the properties of medicine, would feel no difficulty in becoming an expert practitioner.

Having spoken of cattle-doctoring books, it may be expected, that I should mention those, which appear to have been written by the persons, whose names are affixed to them. I shall, therefore, begin with a "Practical Treatise on

the Parturition of the Cow and Extraction of the Calf*; also on the Diseases of Cattle in general, &c. By Edward Skerrett, Professor of that part of Veterinary Medicine." Price two guineas, 4to.

The former part of this work, as far as page 210, is occupied with an account of the diseases, which cows are subject to during the time they are with calf, and their remedies; the mode of managing cows in difficult labours, and extracting calves, when manual assistance is necessary: all this is interlarded with a great deal of theoretical, anatomical, and physiological matter, which appears to have been taken from the writings of medical men, and is of course wholly unintelligible to those persons, for whom this book, we suppose, was intended. The subject is illustrated by several plates. We must do the author the justice to say, that his instructions for managing a cow during gestation are reasonable; and his directions for extracting the calf in difficult labours appear to be judicious: but surely there was no occasion for explaining the circulation of the blood, or the manner in which conception takes place.

With respect to the remainder of the work,

which treats of diseases, we shall say nothing at present, except transcribing one of his recipes, as a specimen: —

"PROVOCATIVE, TO INDUCE THE COW TO TAKE THE BULL.

Take of grains of Paradise, half an ounce;
Cantharides, from *two drams* to HALF AN OUNCE."

I think this a sufficient dose to destroy the strongest animal.

The next book, to be noticed, is a handsome octavo, embellished with an elegant frontispiece, entitled, "Every Man his own Cattle Doctor. By Francis Clater, Chemist and Druggist, at Retford."

I shall only make one observation upon this book at present, and that is, the ingredients, in many of Mr. Clater's receipts, are so numerous and expensive, that, should there be occasion to continue their use for several days, they would, I fear, in many instances, exceed the value of the unfortunate animal, which may be obliged to swallow them. I must observe, also, that he has copied Mr. Skerrett's receipt

for making a cow take the bull, adding to it one ounce of bay berries and one ounce of aniseeds.

" They, who, for interested purposes, fabricate pretended cattle medicines, of the use of which they are careless or ignorant, commit an act of gross inhumanity and crime, in too probably adding to the sufferings of an unfortunate animal, already tortured by disease."—*Lawrence on Cattle.*

The only book that remains to be noticed is " A Treatise on the Diseases of Horned Cattle, by Joseph Downing." As a specimen of this gentleman's performance, the following extracts will perhaps be sufficient. After a receipt for a disease he terms the *Tail Rot*, or *Joint Yellows*, composed of grains of Paradise, salt of tartar, Castile soap, saffron, turmeric, gentian, and a *quart of ale*, he gives the following curious account of it's wonderful properties.

" This drench enriches poor, watery blood, corrects crude juices, frees the liver from obstructions, inspires the mass of blood with a pure and mild ferment, cleanses the bilious passages, and lubricates the intestines. It

infallibly dissolves tough, clammy phlegm wheresoever it sticks, and depurates the fluids, penetrating into the glands and smallest passages, piercing through obstructions, and sheathing the acrimonious particles of the bile."

Of another receipt he remarks, in which powdered tobacco pipes are an ingredient, that "it comforts the *ventricles* and intestines:" and of another, "This medicine moderates the acrid, incrassates the thin, and cools the hot boiling blood; it strengthens and corrugates the fibres, and closes up the mouths of the ruptured vessels; it allays thirst, obtunds the acrimony of humours, thickens the too thin serum, and is a well-suited medicine in hot constitutions; it opens obstructions, and promotes a regular discharge; puts an effectual stop to disorders arising from relaxed or diseased vessels, allays their irritation, and restores their due tone."

Nearly a similar eulogium is passed on the other receipts, among which there is one directed to be given in a pint of the *best French brandy!* Another consists of *hog's dung*, turpentine, and buttermilk. A third, of nitre and oil of vitriol.

His receipts for outward applications are no less curious, and generally recommended with the same kind of eloquence. Of the following mixture, to compound which would perhaps require some ingenuity, he observes, "This mixture has not it's equal in the whole extent of medicine, for procuring ease in the most excruciating pains, particularly in glandulous parts.

"Castile soap	3 oz.
Opium	2 oz.
Rectified spirit of wine . .	8 oz.
Camphor	6 oz."

In another place he directs a swollen part to be FOMENTED with

"Oil of *turpentine*	4 oz.
OIL OF VITRIOL	2 oz.
Vinegar	4 oz."

So much for Mr. Joseph Downing.

I will proceed now to give a plain description of the diseases of cattle and other animals, as far as I am acquainted with them; and, with

respect to those subjects of which I am not qualified to speak from my own experience, I will endeavour to supply the deficiency from the best authorities.

OBSERVATIONS

ON THE

DISEASES OF CATTLE,

&c.

CHAPTER I.

Inflammatory Fever, or General Inflammation; known, also, by the various Names of Quarter Ill, Quarter Evil, Shrinking in Black Quarter, Joint Felon, and many others, equally absurd and unmeaning.

THIS disease frequently happens to young cattle, generally between the first and third year, most commonly about the second year of their age. It appears to be occasioned by feeding them too hastily; by putting them, when in a lean state, into rich, succulent pasture.

The animal, when seized with this com-

plaint, becomes suddenly listless and stupid; he hangs down his head, refuses his food, and appears to move with difficulty. Swellings soon appear on different parts of the body, which, when pressed by the finger, make a crackling noise. Sometimes, the joints are particularly affected; at others, the swelling appears on the back, shoulder, or belly.

The disease attacks rather suddenly, and often proves fatal, particularly when proper remedies are not speedily employed. Bleeding is the first remedy, and must be proportioned to the age and strength of the animal; perhaps from three to four quarts will generally be found sufficient. The blood should always be measured. The purgative, page 16, should then be given, and the swollen parts, particularly if the joints are affected, should be rubbed with the liniment, page 17.

If this disease is really produced by feeding cattle too hastily, and this seems to be the opinion of all those, who have written on the subject, the mode of preventing it is sufficiently obvious. Mr. Lawrence has very properly advised, that a piece of short, or inferior keep, should be reserved, as a digesting place, where cattle may occasionally be turned, to empty

and exercise themselves. This is certainly better than bleeding, or any medical preventive.

I think it necessary to mention another mode of prevention, which, I have been informed, by an intelligent gentleman, who has had great experience in breeding and rearing cattle, has been adopted by him and his neighbours with great success.

He informs me, also, that, before this method was discovered, they lost so many young cattle by the disease, that they had determined to breed no more. They happened, however, to hear of this preventive, and purchased it, as a valuable secret.

Having properly secured the animal, an incision is to be made in the skin, beginning from the division of the claws, and carrying it upward, to the extent of two inches. A bluish vessel will be seen, which is to be drawn up with a hook, and removed with scissars; the part is afterward to be dressed as a common wound. Mr. Lawrence is very humorous upon this apparently whimsical operation; and I should certainly consider it in the same light that he does, but for the very respectable authority from which I received it.

Setons in the dewlap, or other parts of the body, are sometimes employed also as preventives of this disorder.

PURGATIVE DRINK.

Take of Barbadoes aloes	. .	3 dr.
Carbonat of potash	. . . . .	2 dr.
Sulphat of soda	. . . .	6 oz.
Warm water	. . . .	1 pt.

Mix, for one dose.

This dose will generally be found sufficient for an animal of two years old. Should the disease occur in situations, where these medicines cannot be procured, give from four to six ounces of common salt, in a pint of water: the addition of four ounces of castor oil, sweet oil, or even linseed oil, will render it more efficacious. It may be proper to remind the reader, that, as this disease frequently proves fatal, in whatever manner it is treated, preventive measures should never be lost sight of. Should the animal, however, be relieved, by the treatment we have directed, considerable weakness may follow; for which give the following, twice a day:—

Powdered caraway seeds	. .	1 oz.
Ginger	. . . .	2 dr.

To be given in a pint of oatmeal gruel, or ale.

LINIMENT.

Take of linseed oil	. . . .	4 oz.
Oil of turpentine	. . . . .	2 oz.
Liquid ammonia, or spirit of sal ammoniac	. . . .	1 oz.

Mix.

CHAPTER II.

Fever, Putrid, Malignant, Epidemic, Murrain or Pest.

This destructive malady does not appear to have visited Europe since the year 1744. For an account, or history, of the disease, the reader is referred to a Treatise on Cattle, by John Mills, published by J. Johnson, St. Paul's Churchyard. It appears, that M. Sauvages, the celebrated professor of medicine at Montpellier, was an accurate observer of the disorder, when it raged with great violence in many parts of Europe. He calculated, that of twenty, that were attacked by it, nineteen died; that no certain remedy had been discovered, or any effectual mode of prevention, except separating the healthy from the sick: he recommends, however, bleeding and purging, at the commencement of the disorder, with setons in the dewlap. After the operation of the purgative, he considers opiates, aromatics, &c., such as caraway seeds, ginger, cascarilla, &c., as the most proper medicines.

CHAPTER III.

Catarrh, or Cold; Catarrh, Epidemic; Influenza, Distemper, or, according to Dr. Clater, Fellon.

Colds are very common, particularly in wet or cold weather; and, though they are often thought of too little importance to require particular attention, yet, by neglecting them, and suffering the animal to continue exposed to the weather, the most serious consequences may ensue. From such neglect, we often find, that the animal gradually declines in flesh and strength, becomes hidebound, and has a rough, staring coat; at length tubercles form in the lungs, the mesenteric glands become enlarged, obstructing the passage by which nutriment is conveyed to the blood: this is succeeded by atrophy, consumption, and death. It is highly important, therefore, to attend to this disorder, as soon as it is discovered; and I believe it may be safely asserted, that more good may be done by nursing, placing the animal in a warm

situation, giving him warm, nourishing fluids, such as gruel, infusion of malt, &c., than by all the medical hodgepodges, that have been recommended by cattle-doctors, from the time of the great Gervase Markham to that of the celebrated Dr. Clater. Colds are, at some seasons, so prevalent, as to be considered epidemic and infectious. On such occasions, they generally occur with great violence, and are accompanied by fever, and, soon after the attack, by considerable debility.

On the first attack, the animal appears dull and languid; the eyes are watery, and, sometimes, partially closed; the appetite is diminished; and, most commonly, it is attended with cough. Swellings under or below the ears, difficulty in swallowing, and a discharge from the nostrils, are not unusual symptoms of the complaint. When catarrh prevails to this degree, it is generally named *influenza*, or *distemper*, and has been thought contagious; but this opinion has not been proved to be true.

With respect to the treatment of this disease I am decidedly of opinion, that the hot, stimulating drenches, commonly recommended, are injurious. Skerrett recommends the following

curious farrago, for one dose, which is to be given, in a quart of gruel and a pint of ale, once or twice a day, till the disease is removed.

" Nitre	$\frac{1}{2}$ oz.
Salt of tartar	1 oz.
Camphor	2 dr.
Valerian	1 oz.
Liquorice powder and anise, of each	1 oz.
Turmeric	1 oz.
Juniper berries	1 oz.
Mustard	2 oz."

From this specimen one might reasonably conclude, that Mr. Skerrett is a druggist as well as a cow-doctor.

Clater recommends, with other seeds, &c., "long pepper, turmeric, and ginger, of each one ounce, with a quart of ale and two ounces of butter."

Bleeding, at the commencement of colds, is generally proper; the only circumstance, which indicates it's impropriety, is considerable weakness and low condition. The quantity of blood taken should seldom exceed two quarts. If the animal is costive, give a laxa-

tive drink; but if more open than usual, that is, if he purges or scours, give the following powder in some oatmeal gruel:—

Powdered ginger	3 dr.
Antimonial powder	2 dr.
Camphor	$1\frac{1}{2}$ dr.
Tincture of opium	$\frac{1}{2}$ oz.

To be repeated after eight or ten hours, should it be found necessary. If there be any difficulty in swallowing, and particularly if it is considerable, the following liniment should be rubbed about the throat:—

Take of oil of turpentine and any common oil, of each	1 oz.
Liquid ammonia, commonly called spirit of sal ammoniac	$\frac{1}{2}$ oz.

Mix.

In common colds, I am inclined to believe, that, if the animal were placed in a comfortable situation, and well attended to, medicine would be unnecessary. Even bleeding, in common slight colds, is seldom required; but

should the animal, by a change of situation, become hot and feverish, should the eyes look red and the flanks move quickly, he should be bled freely; and if in any degree costive, the laxative should be given. This, however, does not often happen, except the costiveness, which may be expected from a change of diet; the laxative, therefore, is often proper: but when there are no feverish symptoms present, it should be mixed with some cordial medicine, such as one ounce of caraway seeds, and three or four drams of ginger.

When the influenza, or distemper, has not been attended to, or has been improperly treated, at an early period, the animal becomes extremely weak, and every means must be employed to recruit his strength. On such occasions, a tonic may be given twice or three times a day, which, in conjunction with a warm, nourishing diet, and careful attendance, may ultimately effect a recovery.

It is proper, however, to observe, that, if the animal should become costive, a mild laxative will be proper; about half a dose will be sufficient. If grass can be conveniently procured, when the animal is kept under cover, a moderate quantity will be useful. In favour-

able weather, the field is the best place; but a sheltered and warm situation should be chosen.

LAXATIVE.

Sulphat of soda (Glauber's salt)	1 lb.
Oatmeal gruel	1 qt.
Powdered caraway seeds . . .	1 oz.

Mix, for one dose.

Before this subject is dismissed, I wish to impress upon the reader's mind, that, whenever this disease appears to be epidemic, preventive measures should be seasonably adopted, which is more particularly necessary when rain and cold winds prevail; that catarrh, or cold, is often an insidious complaint, and, if neglected, may produce very serious consequences; and, that much more good may be done by the management we have pointed out, than by the most popular cattle medicines.

Whenever caraway, or any of the aromatic seeds are employed, they should not be purchased in powder, as they do not keep well in this form.

CHAPTER IV.

Inflammation of the Lungs.

This disease most commonly occurs to working cattle, from over-exertion; or from being put into a stall, or suffered to drink largely of cold water, immediately after working hard, and when in a state of perspiration. It may arise, also, from exposure to cold and rain, or from sudden changes of weather; it is to this latter cause, indeed, that the greater part of the internal diseases of cattle may justly be attributed. It is highly necessary, therefore, to have shelter yards, sheds, or inclosures, where cattle may be occasionally protected from the inclemencies of the weather. Such accommodation is absolutely indispensable for such as may be attacked by this or any other internal complaint; without it, medical treatment will avail nothing. This disease often begins with shivering, loss of appetite, and a striking appearance of anxiety or depres-

sion; but the most distinguishing symptom is an increased motion of the flanks, or quickness of breathing. The pulse is more frequent than natural; but small, and not easily felt. On lifting the upper eyelid, it's under surface will be found unusally red, sometimes approaching to orange colour. If the disease happens to a milch cow, she soon loses her milk; and the ears, legs, and horns, are generally cold. Early bleeding is the grand remedy in this complaint; but it must not be done sparingly. A cow, or ox, in tolerable condition, may lose from four to six quarts with advantage; and, if the symptoms do not abate in four or six hours, the operation should be repeated, to the extent of three or four quarts, unless the animal faint; whenever this occurs, on any occasion, the bleeding of course must be stopped. Faintness, however, when the disease is really inflammation of the lungs, is by no means an unfavourable effect of bleeding; it is a proof, that the operation has been carried to it's full extent, and a recovery is more likely to happen. A large seton should be put in the dewlap, and moistened with oil of turpentine; and the sides should be well rubbed with the following embrocation:—

Take of flour of mustard	. .	4 oz.
Oil of turpentine	. . . .	2 oz.
Water of ammonia	. . .	2 oz.

The whole to be mixed with as much water as will bring it to the consistence of cream.

Immediately after the bleeding, give the following drink:—

Take of camphor	. . . .	2 dr.
Nitre	. . . .	$1\frac{1}{2}$ oz.
Powdered caraway seeds	. .	1 oz.

To be given in a pint of gruel.

Should the animal be costive, a clyster should be thrown up, consisting of about three or four quarts of warm water, and half a pound of common salt. A pint of castor oil, also, may be added to the above drink: if this cannot be procured, sweet oil, linseed oil, or even melted lard, may be substituted.

It is a bad plan to take only a small quantity of blood daily, or every other day, as has been advised by Dr. Clater and others; for though it may sometimes retard the progress of the inflammation, yet the animal will eventually be destroyed by it. With respect to the sti-

mulating, or heating medicines, recommended by this gentleman, they are, unquestionably, highly pernicious; a circumstance well known to every one at all conversant with medical practice. I can only account for Clater's extraordinary prescription, containing, in one dose, grains of Paradise, Peruvian bark, mottled soap, sweet fennel seeds, salt of tartar, and a *glass of gin*, by supposing, that some other disease was mistaken for inflammation of the lungs; and this will appear the more probable, by reading his description of peripneumony, or inflammation of the *lungs*, which he seems to consider as a disease of the *liver*; for he informs us, when speaking of peripneumony, that "*hepatic* diseases (that is, diseases of the *liver*) are of frequent occurrence among cattle, first, by the powerful effects of the elements bringing on this disease . . . . ." After a little more of the same kind of medical jargon, we are gravely informed, that "the cause of this disease appears to proceed, in great measure, from a deficiency in the animal's nature of performing it's regular course, in carrying on a due circulation through all the vessels; the redundant blood, through these impediments, becomes surcharged with the *pituitous lentor*

of the blood and humours; for the glands cease to secrete the bile, which is not poured into the intestines, but deposited on the skin," &c. If Dr. Clater meant only to astonish his readers by a grand display of his medical learning, all this nonsense might do very well; but, as he professes to write merely for the purpose of teaching them how to cure the diseases of cattle, it is certainly superfluous, to say the best of it. Inflammation of the lungs is a term, that has, unfortunately, been too often applied to diseases of a different kind; and it is from this errour, perhaps, that strong stimulating medicines have been recommended on such occasions. There is an affection of the lungs and parts connected with them, which will not admit of the copious bleeding I have recommended; but the symptoms are widely different. There is not that difficulty and quickness in breathing; the pulse is weak, but not much quicker than usual; the kernels, or glands, about the throat, are often swollen; sometimes, there is considerable difficulty in swallowing, which is particularly seen, when the animal attempts to drink: in short, this is nothing more than a severe degree of catarrh or cold: but, even in this complaint, moderate

bleeding is necessary, and powerful stimulants are extremely pernicious. When the disease, however, has not been discovered for some days, and the animal appears much weakened by it, bleeding is of course improper.

CHAPTER V.

Inflammation of the Stomach.

The complicated structure of this organ, in ruminating animals, renders it particularly liable to disease; inflammation, however, does not appear to occur frequently as a primary disorder, but is more commonly a consequence of some offensive matter lodged in one of the four stomachs, or from the animal feeding so greedily, as to weaken the organ, and prevent it from performing it's functions. In either of these cases, the principal object is to get rid of the offensive matter, by invigorating the weakened stomach, and enabling it to expel the matter, by which it is oppressed. Should inflammation attack the stomachs, independently of this cause, that is, without any hurtful matter having been swallowed, or any improper accumulation of food, the principal remedies would be plentiful bleeding and absti-

nence from food. But this is a case, which very rarely occurs. We shall speak more particularly of the diseases of this organ under the head *Indigestion.*

CHAPTER VI.

Inflammation of the Bowels.

THIS is not a very common disease among horned cattle, and is generally occasioned by drinking cold water when heated by exercise, or by having been overdriven; it may be caused, also, by costiveness. The principal symptom of the disease is a griping pain, which causes the animal to lie down, and become very restless; he frequently turns his head towards his belly, or endeavours to strike it with his hind foot. The pulse becomes quick, the breathing disturbed, and, when the pain is violent, a copious perspiration takes place. When proper remedies are not employed, the disease terminates in mortification and death. In the treatment of this complaint, the circumstances of the case must be carefully attended to. If the pulse is much quicker than natural, the under surface of the eyelid unusually red, and the breathing disturbed, let a large quantity of blood be immediately taken away, even five or

six quarts; and then, unless the bowels are already unusually open, give the following drink:—

Sulphat of magnesia	. . . .	8 oz.
Castor oil	. . . .	1 pt.
Gruel	. . . .	1 pt.

Dissolve the salts in the gruel, and add to them the oil, for one dose.

The operation of this drink should be assisted by clysters. When all the above symptoms, however, are not observable; if the under surface of the eyelid is not redder than usual, or if it is rather paler; if the pulse is nearly in it's natural state; and particularly if the animal is rather loose, or scours, the bleeding should be moderate; and if he be rather weak, and low in condition, it had better be omitted. The following anodyne drink is to be given:—

Tincture of opium	. . . .	½ oz.
Spirit of nitrous ether	. . .	2 oz.
Water	. . . .	1 pt.

Mix for one dose.

When the animal has been kept for some time upon dry food, and he has been observed to dung sparingly, and what he does void appears to be discharged with some difficulty, is more solid than usual, of a different colour, or of an offensive smell, it shows, that the disease is occasioned by costiveness; in which case relief can only be obtained by the laxative drink and clysters. Bleeding, however, must not be omitted, particularly if the pulse is quickened, the under surface of the eyelid redder than natural, and the breathing disturbed. If the laxative prove ineffectual, in removing the costiveness, it should be repeated. —See *Gripes*, page 53.

CHAPTER VII.

Inflammation of the Liver.

The structure of this organ in horned cattle and sheep is different from that of the horse; the latter has no gall-bladder, but in the former there is one of considerable size. It is on this account, perhaps, that cattle are more subject to diseases of the liver, than the horse. I do not believe, that inflammation of the liver often occurs in so acute a form, as to require bleeding largely; it is more commonly of a chronic, or slow kind, causing a defective action in the organ, in consequence of which an unhealthy kind of bile is formed, which plugs up the ducts of the liver, and causes a derangement in the organs connected with it. The symptoms, therefore, of a diseased liver are very complicated; and hence we have a variety of nominal complaints. We shall treat of these subjects, as far as we are acquainted with them, under the heads *Jaundice*, *Diarrhœa*, and *Hepatic Consumption*. With re-

spect to the acute inflammation of the liver, when it does occur, it is to be treated in the same manner as inflammation of the lungs, and is probably produced by the same causes.

CHAPTER VIII.

Inflammation of the Kidneys.

There is no disease, I believe, described in books on cattle medicine, that seems to be so imperfectly known as this; and the treatment commonly recommended for it is in direct opposition to that, which any one acquainted with the nature of the disease would advise. When the kidneys are inflamed, every thing, which might tend to stimulate them, should be carefully avoided, as it must necessarily aggravate the complaint. Dr. Clater makes the following remark upon this disease:—"Country farriers treat this disease very improperly, by giving hot stimulating drenches, without first properly qualifying them with others." The Doctor then gives us the following prescription:—

" Castile soap	. . . .	1 oz.
Salt of tartar	. . . . .	½ oz.
Balsam copaiba	. . . .	1 oz.
Oil of juniper	. . . .	½ oz.
Camphor	. . . . . .	2 dr.
Tincture of opium	. . .	½ oz.
Treacle	. . . . . .	4 oz.

For one dose. To be repeated every day, or every other day, as the symptoms may require."

If Dr. Clater wished to produce inflammation of the kidneys, I would have given him credit for great ingenuity; for surely a more likely method could not, with any appearance of seriousness, have been proposed. Fortunately, however, both for the animals and their owners, it is a disease, that does not so often occur, as this gentleman would lead us to suppose; and the complaints, that have generally been described as such, are a spasmodic affection of the bladder—a disease by no means difficult of cure—and a diseased state of the kidneys, in which blood appears to be mixed with the urine.

The following are the symptoms of inflammation of the kidneys: quick pulse; loss

of appetite; the animal is frequently endeavouring to stale, and voids only a very small quantity, with much difficulty and pain: pressure on the loins gives pain, and causes the animal to shrink or give way to it; there is generally considerable stiffness in the hind parts observable when the cow attempts to walk: the urine is commonly of a dark red colour. This disease is different from that named red water (see page 73); and, unless properly treated at it's commencement, often terminates fatally.

Let him be bled freely, and take a pint of castor oil. If the dung is at all hard, or deficient in quantity, let clysters of warm water, with a little sweet oil, be employed. The liniment directed for inflammation of the lungs should be rubbed on the loins; after which, let them be well clothed, or covered with a fresh sheep or lamb's skin. When the pain and difficulty, or rather the almost constant straining to stale continues, after the castor oil has operated, and the bowels have been sufficiently opened, the anodyne clyster may be thrown up; that is, about one ounce and a half of tincture of opium, in one quart of gruel; or from one dram to two of crude

opium, dissolved in warm water and mixed with gruel.

If the animal is very thirsty, he should be restrained in drinking; and what he takes should be impregnated with some mucilaginous substance; an infusion of linseed, or a decoction of marsh-mallows, is very proper.

CHAPTER IX.

Inflammation of the Bladder.

Cows, during the latter part of the time they are in calf, have sometimes a frequent desire to void their urine, from an irritable state of the bladder. When this is observed, it will generally be found to depend upon costiveness; in which case, a laxative drink and clyster are the most proper remedies. This state of the bladder has been often termed inflammation, but very improperly; and I am inclined to believe, that the disease very rarely occurs. If the neck of the bladder appears to be obstructed, or if there be reason to suppose, that there is a *retention* of urine, the female catheter, or even the finger, may be easily introduced, so as to allow the water to pass off freely.

CHAPTER X.

Inflammation of the Womb.

THIS is by no means an uncommon disease, and seems, generally, to depend upon the cow being too high in condition at the time of calving, or in consequence of too much violence having been employed in extracting the calf. The symptoms are quick pulse, loss of appetite, a languid appearance, and gradual loss of her milk. As the disease advances, the bladder becomes affected, and there is often a fetid discharge from the parts. Sometimes the animal is almost constantly straining, as if endeavouring to void something; in such cases, there is a small quantity of urine frequently discharged; at others, the urine is so long retained, as to render it necessary to relieve the bladder by drawing it off. This may easily be done, by introducing an instrument through the urethra into the bladder. I have often performed this operation with my finger, the passage being very short. At this stage of the

disease, the cow becomes very weak, moves with difficulty, and is sometimes incapable of standing.

The principal remedies, at first, are bleeding; and a laxative drink, composed of about eight ounces of castor oil, and half a pound of sulphat of magnesia (Epsom salts) dissolved in a quart of gruel, or warm water. Clysters of warm water and oil are useful also. After the bowels have been opened, give the following anodyne:—

Camphor	2 dr.
Tincture of opium . .	$\frac{1}{2}$ oz.
Spirit of nitrous ether .	1 oz.

To be given in a pint of gruel.

This may be repeated, after ten or twelve hours, should it be found necessary. When the pain and straining are considerable, the anodyne clyster may also be given, which consists of one ounce and a half, or two ounces of tincture of opium, and about a quart of thin fine gruel.

Having observed, that this disease is often produced by keeping the cow too well, or allowing her to get rather fat previous to calving,

the mode of prevention need not be pointed out; and it should be kept in mind, that when the womb, or any other internal organ, is inflamed in a considerable degree, a cure is absolutely impossible. The earliest attention, therefore, should be given to these complaints.

CHAPTER XI.

Inflammation of the Brain.

This complaint is more frequently imaginary than rea ; in short, it very rarely occurs, and, when it does happen, may be readily distinguished by the violent delirium, or madness, and a furious appearance in the eyes. The only treatment, that can do good, is plentiful depletion; that is, bleeding freely, to the extent of two gallons, and purging. Blistering the head may also be useful.

From what has been said of the treatment of this class of diseases, that is, inflammation of the internal organs of the body, it will be seen, that they are all of a dangerous nature, and require the earliest attention: that they are generally the consequence of improper management or neglect, and may therefore most commonly be prevented; and, that the most essential remedy is *early* and copious bleeding, with laxative medicine.

CHAPTER XII.

Fog Sickness, Hoven, or Blown.

We come now to treat of a class of diseases still more important, with respect to horned cattle, than the foregoing; that is, obstruction, or imperfect action, in the organs subservient to digestion. Under this head will be brought *Fog Sickness, Hoven, or Blown; Gripes, or Flatulent Colic; Indigestion, loss of the Cud; and Jaundice, or Yellows.* These diseases, however, will be better understood, if we give, in the first place, a short description of the cow's stomach. All animals, which ruminate, have more than one stomach: in the cow there are four; the first is considerably larger than the rest, lies on the left side, and is commonly called the *paunch.* The food, having been sufficiently macerated in this stomach, is forced up gradually into the mouth, where it undergoes a complete mastication, which is termed chewing the cud. The food is then

again swallowed, and conveyed to the second stomach, for the gullet opens indifferently into both. It ends exactly where the two stomachs meet; and there is a smooth gutter, with rising edges, which leads into the second stomach, and thence to the third and fourth: the animal, however, has the power to direct it into which it will. The second stomach is named the *bonnet*, or *king's hood*. It's internal surface consists of cells, resembling a honey-comb; here the food undergoes a farther maceration, and is then conveyed to the third stomach, called *manyplies*; because the internal surface rises up into many folds. Some of these folds are longer than others, and on their surface small glands may be seen, something like millet seed. From this it passes into the fourth, or red stomach, commonly called the *caul*. This much resembles the human stomach, or that of the dog; only the inner folds are longer and looser. Here the food is perfectly digested, and prepared for the nourishment of the animal.

When cows or sheep are turned into a

fresh pasture, of a different kind and richer than that they had been accustomed to, they sometimes eat so greedily, that the paunch is incapable of contracting, or forcing back it's contents into the mouth. When this happens, the food undergoes a kind of fermentation, in consequence of which a great deal of air is generated, and the paunch so excessively distended, that, if the animal is not relieved, it will either burst or destroy him by suffocation. An instrument has been invented, by Mr. Eager, for giving vent to the confined air, which is very simple, and appears to have answered the purpose completely. It consists of a cane, six feet in length, with a round knob of wood properly secured at one end. An assistant is to lay hold of the cow's horn with one hand, and the part which divides the nostrils with the other. The operator is to take the tongue in his left hand, and with his right he is to force the instrument down the gullet. As soon as it enters the paunch, a good deal of air will rush out. The instrument may remain in the stomach, without injuring the animal, until the air is perfectly evacuated.

It sometimes happens, that the distention of

the paunch takes place so suddenly, and in so dangerous a degree, that no time is allowed for using the instrument; in this case, a sharp-pointed penknife may be plunged into the paunch, through the skin, by which the confined air will immediately escape. There is no difficulty or danger, in this operation; nor is any other instrument required than a sharp-pointed penknife. Should the opening be plugged up with the contents of the paunch, they may be removed, or the orifice kept open, with a probe or feather. When all the air has escaped, let the wound be closed with any kind of sticking plaster, or pitch. This opening is to be made on the left side, between the haunch bone, and the last rib.

When the animal has obtained some relief by these means, let one of the following drinks be given:—

N° 1.

Powdered ginger . .	$\frac{1}{2}$ oz.
Spirit of nitrous ether .	2 oz.
Oil of peppermint . .	30 drops.
Warm water	1 pint.

Mix, for one dose.

N° 2.

Powdered caraways	. .	1 oz.
Ginger	. . . .	2 dr.
Warm ale	. . . . .	1 pint.

Mix.

N° 3.

Powdered gentian	. .	1 oz.
Cascarilla bark	. . . .	2 dr.
Warm ale	. . . . . .	1 pint.

Mix.

An infusion of camomile flowers and ginger is also a good stomachic in such cases; and it might be made still better, perhaps, by infusing the ingredients in hot ale instead of water.

When cattle have suffered a severe attack of this disease, the stomach is generally weakened by it; great care, therefore, is necessary, in order to prevent a return. For several days after, they should be fed rather sparingly, or not allowed to eat much at one time; and every morning and evening, for three or four days, may take one of the above drenches.

Sheep are liable to a similar disease, and may be relieved by the same remedies. The instrument, however, employed for sheep, need not be more than three feet in length; it should also be smaller and more flexible. It has been said, that a common cart-whip may, on emergencies, be made to answer the purpose, if used with dexterity.

Any one, unaccustomed to handle cattle, would feel some difficulty in using Mr. Eager's instrument; but, if the horn be held firmly with the left hand, and the part which divides the nostrils be grasped firmly with the right hand, the cow will generally submit quietly to the operator.

CHAPTER XIII.

Gripes, or Flatulent Colic.

THIS disease, in horned cattle, is generally the effect of costiveness, or a retention of food in the third stomach. Sometimes, however, it happens when the bowels are in a lax, or natural state. Cows, that are fed upon grains, are very liable to this complaint; such, also, as are kept upon dry food are often attacked by it. When flatulent colic takes place independent of costiveness, it is generally occasioned by feeding greedily upon fresh succulent grass, or by drinking cold water when heated by exercise, and comes on rather suddenly; but, when it is caused by costiveness, the attack is generally more gradual.

The symptoms are, at first, an appearance of restlessness in the animal, often lying down, groaning, or striking against the belly with the hind feet or horns. The body is often swollen, which is most observable on the left side. The pulse is generally in it's natural

state. If proper remedies are not administered, the pain becomes more violent; and, at length, inflammation takes place, which is indicated by the pulse becoming very quick, and the ears, horns, and feet, cold: when this happens, the disorder most commonly terminates in death. When the colic appears to arise from costiveness, purging medicines are, of course, the essential remedy; but they should be combined with aromatics, or stimulants, as in the following formulæ: and if the animal is in good condition, or the inner surface of the eyelid is unusually red, she should be bled freely; but if the complaint is attended with looseness, or if the bowels are in their natural lax state, particularly if the animal appears rather weak, and the inner surface of the eyelid pale, the following carminative drink should be given, and no blood taken off. When the purging drink is found to be necessary, it's operation may be promoted by clysters. It may not be unnecessary to observe, that, when the colic is caused by feeding greedily upon grains, or any other kind of food, the cow must be fed cautiously for several days after, and take the stomachic drink once or twice a day, in order to restore the tone or energy of

the stomach. On the other hand, should the disease have been occasioned by costiveness, or feeding upon dry food, the state of the bowels must be attended to, after the animal has been relieved by the operation of the purgative drink; as the tendency to costiveness will probably continue, unless it is removed by a change of food. When this cannot be done, some salt should be mixed with the food, if the animal will eat it; if not, he should be drenched with three or four ounces of salt dissolved in water daily: this will serve to open his bowels in a slight degree, and increase his appetite for water, with which he should be freely supplied.

PURGING DRINK.

Take of Barbadoes aloes . .	½ oz.
Carbonat of potash	3 dr.
Powdered ginger	½ oz.
Water	1 pt.
Oil of turpentine	1 oz.
Linseed oil	8 oz.

Mix, for one dose.

When the above medicine cannot be pro-

cured in time, the following may be substituted for it: —

Take of common salt	½ lb.
Sweet oil, linseed oil, or any kind of oil, that is not very rancid, or even melted hogs' lard	½ lb.
Flour of mustard	1 oz.
Water	1 qt.

To this a glass of spirit may be added.

STOMACHIC DRINK.

Take of powdered ginger . .	½ oz.
Powdered gentian	1 oz.
Carbonat of ammonia . . .	2 dr.
Infusion of camomile flowers .	1 pt.

Mix, for one dose.

CARMINATIVE DRINK.

Oil of turpentine	1 oz.
Tincture of opium	6 dr.
Spirit of nitrous ether . . .	2 oz.
Water	1 pt.

Mix, for one dose.

CHAPTER XIV.

Indigestion, Loss of the Cud.

We have already described that acute kind of indigestion, which comes on rather suddenly, from feeding greedily in rich succulent pasture, under the head *Hoven*, or *Blown;* the disease, however, we are now to notice, is of a different description, is very gradual in it's attack, and often connected with a morbid state of the liver.

The earlier stages of this complaint are not marked by very striking symptoms. The animal has a dull, or languid appearance; and, generally, a rough unhealthy coat and tight skin. The appetite is diminished, and at length he ceases to chew the cud. The eyes and mouth have generally a yellow appearance.

To cure this disease, it should be attacked at an early period; for when the liver has become affected in a considerable degree, it ter-

minates fatally. Should there be any appearance of costiveness, the following warm laxative is first to be given; more commonly, however, the bowels are in a loose state, and the dung has an unhealthy appearance; in this case, let the tonic drench be given morning and evening, and let the animal be kept in a warm sheltered situation. It may be necessary to repeat, that this, like most other internal diseases of cattle, may generally be removed by timely attention; but, in attempting a cure after they have existed some time, a great deal of unnecessary expense is often incurred.

WARM LAXATIVE.

Barbadoes aloes	$\frac{1}{2}$ oz.
Castile soap	6 dr.
Ginger	3 dr.
Cascarilla bark	2 dr.
Warm water	1 pt.

Mix.

After the operation of the laxative, the tonic drench may be given, should it be found necessary.

TONIC DRENCH.

Cascarilla bark and ginger, of each	3 dr.
Carbonat of soda	2 dr.

To be given in a pint of ale.

CHAPTER XV.

Jaundice, or Yellows.

This disease may be known, principally, by yellowness of the eyes and mouth; a dull or languid appearance, and debility; a loss of appetite, also, is a common symptom. It may be distinguished from the former disease, by the costiveness, which uniformly attends it, and by the animal appearing to be in more pain. At the commencement of the disorder, a cure may generally be accomplished, by giving the warm laxative, directed for the foregoing complaint, and repeating it after an interval of five or six days, giving, in the intermediate time, the following drink, every morning and evening:—

Castile soap	½ oz.
Venice turpentine	½ oz.
Ginger	3 dr.
Powdered gentian root . .	1 oz.

Rub the soap and turpentine together, in a

mortar, until they are incorporated; then add gradually a pint of water, and afterward the ginger and gentian.

In the more advanced stage of this disorder, the liver is generally so injured, as to render a cure impossible.

The term Yellows is applied to many different diseases, by persons employed in dairies, and cow doctors. Downing describes a disease, which he calls the "*Joint Yellows;*" and, in a large dairy district, where I have lately been, I have seen cows that have had the "*Yellows in the Udder;*" and others, that have had a "*touch of the Yellows in the inside.*"

CHAPTER XVI.

Diarrhœa, Looseness, Scouring Rot, Scantering, &c.

This is a very serious disease, and destroys a great number of cattle. It consists in a frequent discharge of dung, of an unusual colour, thin, and slimy. The animal gradually loses flesh, but continues for some time to feed well and ruminate. At length the excrements become of a darker colour and frothy, and in the latter stages have the appearance of half-chewed food, the digestive power being entirely lost. It is said, that, when animals have been long affected with this disease, they feel a great degree of distress and pain, when grasped on each side the backbone, just behind the shoulders; and this is sometimes considered, by dealers in cattle, as a mark of a beast being tainted with the scouring rot.

The causes of this complaint appear to be, generally, exposure to cold and rain, particularly when the animal has been overdriven, or heated by working immediately before.

Drinking plentifully of water, under similar circumstances, will also produce the disease. Want of nourishment, particularly in cows that are constantly milked, often causes the scouring rot.

A great number of strange remedies have been recommended for this complaint, many of them too absurd to be noticed. Mr. Lawrence says, " if, on the first appearance of scouring, cattle are taken in, and kept on dry food, it will generally supersede the use of medicine." This is certainly necessary; but is not, I believe, sufficient to eradicate the disease; and, though it may suppress it for a time, yet the scouring generally returns, when the animal is again sent out into the pasture. The *immediate* cause of the disorder appears most frequently to be an unhealthy action of the liver, which seems to form bile of an acrid or hurtful quality, by which the bowels are constantly irritated. I would advise, therefore, in the early stages of the complaint, to give the following drink, for three successive mornings, which will rather increase the scouring at first; and, when the effect of this medicine has ceased, let the astringent drink be given every morning and

evening. An observation we have made, when treating of some other diseases, is equally applicable to this; that is, at an early period of the disorder, a cure may generally be effected by the treatment above described; but if neglected, and suffered to go on, until the *structure* of the affected parts is injured, medicine is but a useless expense. In the incurable stage of this complaint, it is astonishing what a number of medicines have been recommended; even hog's dung may be found among them, mixed with buttermilk and turpentine.

FIRST DRINK FOR SCOURING.

Take of quicksilver pill, from 2 to	3 dr.
India rhubarb	3 dr.
Castor oil	4 oz.
Gruel	1 pt.

Mix, for one dose.

This should be well stirred, immediately before it is given, as the quicksilver pill is heavy, and would otherwise soon separate and fall down; for the same reason it is to be given in gruel, which will suspend it longer than a thinner fluid.

This dose should be repeated for three

mornings following, unless it cause sickness or griping, or increase the scouring in a considerable degree. On the fourth morning, begin with the astringent drink, or earlier, should the above medicine produce it's effect before the three doses have been taken. During the time the cow is taking the former medicine, she should be supplied with warm fluids, of which thin gruel is the best, and must not be exposed to a cold air.

ASTRINGENT DRINK.

Take of starch . . . . 4 oz.
Mix in the usual way, that is, as it is employed for stiffening clothes, with three pints or two quarts of water, so as to make a thick, mucilaginous fluid. To this add,
Tincture of opium . . . . . . 2 dr.
Ginger . . . . 3 dr.
Catechu, or terra Japonica . . . . ½ oz.

Mix.

When the scouring has ceased, the cow should be brought back to her usual state gradually. At first, she should be turned out for a few hours, in some dry pasture, when the

weather is favourable; and her water should be gradually given less warm. This precaution is highly necessary, as the affected parts do not immediately recover their strength after the scouring has ceased. With respect to the scouring, or diarrhœa, in calves, which is not an unfrequent complaint, a different treatment is to be pursued. They may generally be cured by the following drink, given morning and evening:—

Take of the above starch mixture,	1 pt.
Powdered chalk, or what is called prepared chalk	3 dr.
Powdered ginger	1 dr.
Tincture of opium	1 dr.

Mix.

Lambs are subject to a similar disease, and may be cured by the same means, only lessening the dose.

In the diarrhœa, which arises from exhausting a cow by constant milking, when she is not sufficiently fed, or is supplied with food of a bad quality, the remedy is sufficiently obvious. But, in this case, it too often happens, that the constitution is worn out, before it is thought

necessary to alter the poor animal's condition. Whenever this change is made, it must not be done too hastily, as other diseases might thereby be produced.

Since writing the above, two opportunities have occurred of examining the bodies of two cows: one of them had lingered in this complaint a considerable time, and was kept out until it died; the other was destroyed at rather an early period of the complaint, for the purpose of examining the state of the internal parts.

The first was examined by Mr. Rogers, an ingenious veterinary surgeon at Exeter, who informed me, that he found the liver highly diseased, thickened, and in great measure disorganized; the gall bladder and it's duct nearly obliterated; the coats of the intestines were thickened, and easily torn; time, and other circumstances, did not admit of a more particular investigation.

In the other cow, the liver was perfectly healthy; the gall bladder full of healthy bile. All the contents of the chest were sound. The four stomachs, with their contents, were in a natural state. The coats of the intestines were

thickened, particularly the posterior portion of the canal, or rectum: on the inner surface, many inflamed spots, or patches, were observed. On pressing the coats of the intestine between the finger and thumb, their cellular texture gave out a watery fluid. That part of the mesentery immediately connected with the intestine was in the same dropsical state. The whole of the intestinal canal felt tender, and was more easily torn than in the healthy state. No other morbid appearance was observed.

At this time, I was residing in a part of Somersetshire, where many large dairies are kept, which afforded me an opportunity of conversing on this subject with several persons, who had many times examined the bodies of cows, that had died of the disease, as well as of those, that had been killed before the disorder had proceeded so far as to render the flesh quite unfit for food. According to their description, the contents of the third stomach are almost always found in a dry, hardened state; so much so, that it appears sometimes as if the fluid part had been squeezed out in a press. The coats of the intestines are

much thickened, and in the same tender and dropsical state that I found them. The coats of the last gut, or rectum, they remarked, are sometimes so thick, that the canal is not much larger than that of a goose quill. The liver is sometimes diseased, but not uniformly, or often. The lungs, also, have been sometimes found in a diseased state.

In the cow, which I examined, the disease had existed between two and three months. The animal appeared well in the eyes, fed well, and ruminated like the rest; but I observed, she was frequently drinking. She was very thin, had a dry, unhealthy coat; and, on observing her dung immediately after it was discharged, I always found it's surface covered with air bubbles. It was of a much thinner consistence than that of the other cows, voided more frequently, and in larger quantity. The smell was more offensive than usual.

It appears, from the information I collected, that the disease is generally produced by exposure to cold, when the animal is in a state of debility, or has been bred in and accustomed to a warmer climate. A heifer, for example, brought from Devonshire to the dairies about the

hill of Mendip, in Somersetshire, is much more liable to the disorder, than one bred in that cold climate. Cows, that have naturally a weak constitution, are also more obnoxious to it than others; and the same may be observed of such as have been weakened by bad keep, age, or frequent calving.

As to the medical treatment of this complaint, much useless expense is often incurred. The most profitable plan is, I believe, to put the animal under cover, especially in winter, autumn, or the early part of spring; and feed on hay, bran mashes, with oats, or oil cake; and endeavour to make her fit for the butcher. If it be a milch cow, she should be suffered to go dry. Should the scouring continue, notwithstanding this change, give, in the first place, the drench before directed, or the following: —

Common salt	8 oz.
Flour of mustard	2 oz.
Water	$1\frac{1}{2}$ pt.
Oil, or melted lard	$\frac{1}{2}$ lb.

This will increase the discharge for a short

time: afterwards, the dung will gradually become of a more natural consistence. But, should the scouring continue, give the astringent drink already prescribed, or the following:—

Powdered catechu . . .	6 dr.
Tincture of opium . . .	$\frac{1}{2}$ oz.
Powdered ginger . . .	2 or 3 dr.
Warm ale	$1\frac{1}{2}$ pt.

Mix.

The powder, or tincture, of galls, would also be found a powerful astringent. Some farmers give mutton suet boiled in milk, with four ounces of oil of turpentine. I once gave eight ounces of oil of turpentine mixed with a quart of gruel, and afterwards kept the animal, under cover, upon hay and bran mashes. The dung acquired a healthy appearance in a short time; but, on turning her out again, the disease quickly returned.

A Mr. Bellamy has been rewarded, I have been informed, by the Bath Agricultural Society, with a gold medal, for the *supposed* discovery of a remedy for this disorder, which he has published, with other cattle remedies

equally curious, and, no doubt, just as infallible. It is composed of

Turmeric, aniseed, fenugreek, diapente, sulphur vivum, of each	$5\frac{1}{2}$ oz.
Rhubarb	$1\frac{1}{2}$ oz.
Opium	$\frac{1}{2}$ oz.

Of this mixture eight ounces are to be given in one quart of strong beer, and repeated after an interval of one day. Six days after, one pound and a half of melted lard is to be given, with three ounces of the mixture. Four mornings afterward, repeat the first dose; that is, the mixture and strong beer, and take a little blood. The four following mornings give three ounces of the mixture, three ounces of chalk, eight ounces of pomegranate, and one pound and a half of box, powdered fine, in five quarts of milk, or *hay tea*. After all this expense, which would sometimes exceed, probably, the value of the unfortunate animal, he advises, that it be fated as soon as possible.

CHAPTER XVII.

Red Water, or Bloody Urine.

THIS disease often happens to cattle, and when neglected, or improperly treated, frequently proves fatal. The most conspicuous symptom is, the red colour of the urine, which appears as if it were mixed with blood: when the disease is not checked, the urine becomes of a darker colour, and the other symptoms, which will be described presently, gradually increase; at length the urine resembles foul coffee, the animal loses strength rapidly, and sinks under the disorder. They seldom live beyond the tenth or twelfth day, when the disease is not checked or put a stop to by proper remedies.

Red water is generally attended with costiveness; and, if this is not the case at first, it almost invariably happens in the progress of the disorder, unless prevented by laxative medicine, and a suitable diet; hence it is, that

animals affected with this disease, when taken up and fed on hay, and particularly when strong astringents are given, without attention being paid to the state of the bowels, they generally become obstinately costive, and die. Even when kept out, and feeding on grass, this constipation of the bowels is very apt to occur, and must be carefully guarded against. In some instances, the dung has become so hard, that it has been found necessary to draw it off with the hand.

On the first attack of this complaint, besides the red colour of the urine, the animal generally appears rather sunk in the eyes, listless, and without appetite; the nose, instead of being cool and covered with moisture, as in the healthy state, becomes hot and dry, and the coat appears dry and unhealthy. The urine is seldom voided with difficulty, or much more frequently than usual, the disease having no resemblance, in this respect, to inflammation of the kidneys.

The disorder most commonly prevails in the spring season, when the weather is most variable, and the grass begins to grow. It has been often observed to happen when cattle

are changed from a low meadow ground to a high or exposed situation; and it has sometimes occurred after a change of pasture, when there has been no remarkable difference, either in the soil or situation. Bulls, oxen, and cows, are said to be equally liable to the disorder; and it does not appear, that an animal, when perfectly recovered from the complaint, is more liable to it than others. Bulls and oxen sometimes void red water from over-exertion, or bruises on the loins. This is named, by some farmers, *strain water*, and is not considered of importance, as it is seldom accompanied with any degree of fever, and generally ceases in a short time.

To enumerate all the *infallible* receipts I have heard of for red water, would occupy the reader's time to little purpose. Every practitioner I have met with is decidedly of opinion, that bleeding is improper, and has generally proved fatal; and that, if a considerable degree of costiveness is suffered to take place, the animal commonly dies. Those who have been most successful in the treatment of the complaint, have employed medicines of a laxative quality, sometimes mixed with oil of turpentine.

An intelligent farmer has informed me, that his father, who kept a great number of cows, had from time to time lost many of them by the red water, though a variety of remedies had been tried, and great care taken of them. At length, he was advised to give half a pint of the juice of the white-blossomed nettle, which speedily cured the disease; after which, though it appeared as often as usual among his cattle, he never lost one, and he used no other remedy.

Mr. Bellamy, the person before noticed, prescribes two ounces of tincture of cantharides, and two ounces of roch alum, to be given in a quart of lime water: and, as a laxative, he advises to give one ounce of Epsom salts, one ounce of castor oil, one ounce of nitre, and one ounce of cream of tartar, in whey. The quantity of castor oil and Epsom salt is much too small; four ounces of each would amount only to a moderate dose.

From all I have seen, and from what I can collect from other practitioners, the best method of treating this disorder is to give, in the first place, a mild laxative; the following will be found efficacious and safe:—

Epsom salt, or common salt,	4 to 6 oz.
Nitre	1 oz.
Whey, or thin gruel . . .	1 qt.
Oil, or melted lard (but castor oil is preferable) .	6 to 8 oz.

Mix.

After the laxative, should the disease continue, let the following drink be given :—

Take of alum	1 oz.
Dissolve it in a pint of hot water, and add	
Oil of turpentine	2 oz.
Powdered catechu, or terra Japonica	1 oz.

Mix.

This will generally be sufficient to effect a cure. When red, or bloody water is caused by strains, or a bruise on the loins, it is distinguishable by the tenderness of the part, the animal giving way when it is pressed upon, and by stiffness in the motion of the hind parts. In this case, also, a laxative may be given; and, if the injury is considerable, the

loins should be fomented with hot vinegar, and afterwards covered with a fresh sheep's skin.

Whenever the animal is observed to be frequently endeavouring to stale, voiding only a small quantity, with much pain and difficulty, turpentine, and all other diuretics, are improper: mucilaginous drinks, such as infusion of linseed, and decoction of marshmallows, are most likely to afford relief.

CHAPTER XVIII.

Dysentery, Bloody Ray.

CATTLE, that have been overdriven, particularly such as are in good condition, are sometimes attacked with an inflammatory fever, in which a diarrhœa, with griping pains, is a conspicuous symptom. The dung they discharge has an offensive smell, and is often mixed with the mucus, or natural lining, of the bowels. It very much resembles the disease called *molten grease*, in horses. The animal should be bled freely, and take afterward a pint of castor oil. If the animal does not appear relieved in some degree, in six hours, the pulse continuing quick, and the under surface of the eyelid unusually red, the bleeding is to be repeated. When the symptoms have been subdued, great weakness will remain; and every thing must be done to support the animal's strength. For this purpose, good oatmeal gruel, malt mashes, or gruel made with wheat flour, may be given freely.

Downing describes a disease of this kind, under the name of *inflammation of the bowels, violent flux*, or *plague in the guts*, and prescribes

Pomegranate	3 oz.
Rhubarb	1 oz.
Diascordium	1 oz.
Alum	2 oz.
Grains of Paradise	1 oz.
Aniseed powder	2 oz.
Red wine	1 pt.
Good ale	1 pt.

To be repeated every ten or twelve hours.

If this drench were given to a healthy beast, I should be apprehensive of dangerous effects from it; but if administered to one already labouring under inflammation of the bowels, I think it would certainly prove fatal. The drench would cost between six and seven shillings. Cases sometimes occur, where the discharge is so considerable as to render copious bleeding improper, still the castor oil is generally necessary; and, when it cannot be readily procured, sweet oil or melted lard may be substituted. Arrow root gruel is an excellent

drink in this disorder. Should the disease continue after the above method has been tried, give half an ounce, or six drams, of tincture of opium, in arrow root gruel.

Calves, at the time of weaning, if improperly managed, are liable to a severe diarrhœa, which, if neglected, often proves dangerous. The best remedy, for this complaint, is flour-milk gruel, with a little prepared chalk; in obstinate cases, about one dram of ginger, and from half a dram to one dram of tincture of opium, may be added.

CHAPTER XIX.

On the Management of Cows, when they are near the Time of Calving.

The diseases, which most commonly occur, at this time, are strangury, or difficulty in voiding urine, and costiveness; and these it is highly necessary to attend to, as they may, if neglected, be the cause of the cow slipping her calf. The strangury is readily known to exist, by the cow making frequent attempts to stale, without being able to void any urine, or only a small quantity. When it is accompanied by costiveness, which is generally the case, and is often the cause of the complaint, the bowels must be opened by a laxative, composed of a pound of Epsom salts, dissolved in a quart of gruel; a clyster, also, should be given, consisting of two quarts of warm water, and four ounces of linseed oil. The clyster may be repeated two or three times, in the course of two hours, should it be found necessary. Should

the strangury continue, after the bowels have been emptied, give the following drink: —

Take of camphor	2 dr.
To be powdered, and mixed with	
Spirit of nitrous ether	$\frac{1}{2}$ oz.
Tincture of opium	$\frac{1}{2}$ oz.
Gruel, in which one ounce of nitre has been dissolved	1 pt.

Mix.

Many cows have been lost, by allowing them to be too fat, at the time of calving; they are then said to die of the milk fever, which, in fact, is nothing more than inflammation of the uterus, or womb. It is advisable, therefore, when a cow far gone with calf is in too good condition, to reduce her, by changing the pasture, which is preferable to bleeding or physic; but if she has approached too near her time to admit of this change having any effect, then bleeding will be proper. When a cow, in high condition, appears to be ill and feverish soon after calving, let her be bled to the extent of three quarts, and take a pint of castor oil. Should the fever continue, and particularly if it ap-

pears to increase, the animal expressing great uneasiness, with a wildness in her appearance, great redness of the upper eyelid, and quick motion of the flanks, the bleeding must be repeated. Many cows have been destroyed, by the stimulating medicines, that are commonly recommended and given on these occasions.

With respect to the manual operations required, in difficult labours, where the calf presents unfavourably, I have only to offer one observation, not from my own experience, but from very respectable authority. When every other plan has failed for turning the calf, so as to put him into a favourable position for delivery, the following has often succeeded: Let the cow be thrown down in a proper situation, and placed on her back; then, by means of ropes, and a pulley attached to a beam above, let the hind parts be raised up, so as to be considerably higher than the fore parts; in this position, the calf may be easily put back towards the bottom of the uterus, so as to admit of being turned, or his head and fore-legs brought forward without difficulty.

CHAPTER XX.

Inflammation and Swelling of the Udder.

THIS disease attacks cows about the time of calving, and is sometimes so considerable, as to cause an abscess to form. As soon as it is observed let the animal be bled freely, and take a pound of Epsom salt, dissolved in a quart of gruel, to which a little castor or linseed oil may be added. The swollen udder should be frequently fomented with a decoction of mallows, elder, or hemlock. The best method of doing this is to dip large woollen cloths in the hot decoction, and, after wringing, let them be applied so as to cover the whole udder: this process should be continued for some time, and repeated several times a day. When, by these means, the inflammation has been removed, some degree of hard, but not painful swelling, may remain: to disperse this, the following liniment may be rubbed on the part once or twice a day:—

LINIMENT.

Take of linseed oil	$4\frac{1}{2}$ oz.
Oil of turpentine	1 oz.
Liquor of ammonia	$\frac{1}{2}$ oz.

Mix.

Inflammation of the udder sometimes occurs in consequence of catching cold, or a CHILL, as it is more commonly termed; in this case the appetite is diminished, the coat stares, the breathing is quickened, and there is some degree of fever. Here bleeding is generally necessary, at first, and the following warm laxtive:—

Common salt	6 to 8 oz.
Oil, or lard	6 oz.
Flour of mustard	1 oz.
Whey, or water	1 qt.

Mix.

The animal should be taken under cover, and fed with warm mashes of bran or malt. One ounce of nitre may be put into her water morning and evening.

This inflammation is generally confined to

one or two quarters of the udder, at others it spreads to the whole. The milk, drawn from the affected quarter, is of a yellowish or whey colour, and contains small flakes, or curds. It is from this circumstance, perhaps, that such cows are said to have "the YELLOWS *fallen into the udder.*" When the inflammation is not seasonably checked, it often proceeds to suppuration; and when matter is formed, instead of yellowish or whey-coloured milk, pus, or matter, is drawn off from the teat. The matter is sometimes completely drained off in this way, and the inflammation and swelling subside; but, to accomplish this, it is necessary to draw it off from the teat three or four times a day from the commencement of the disease; for, if it is suffered to accumulate, a large abscess will form, and the gland, or quarter, will be so disorganized as to be incapable ever after of forming milk: it is probable, however, that, when this happens, the other three quarters will have their capacity for forming milk gradually increased. Whenever matter has been formed in the udder, and can be distinctly felt, it is proper to open it in the lowest part, that the matter may run off freely. When this has been done, the part

should be kept clean, and no matter allowed to lodge in the cavity, which should be syringed with warm water. To get rid of the matter completely, I have found it necessary to make an opening in the side of the teat, a little above it's extremity, or the orifice through which the milk is squeezed out. There is no occasion for cramming tents into the cavity, or daubing the udder with filthy ointments; it is quite sufficient to bathe and syringe with warm water twice or three times a day, which will effectually prevent an accumulation of matter; and, if the healing process goes on languidly, a mixture of spirit and water, or a solution of white vitriol, may be injected.

CHAPTER XXI.

Wounds.

The wounds of cattle are most commonly caused by goring each other with their horns, or by breaking over fences; and, when deep or extensive, are generally followed by considerable inflammation. The treatment of these wounds, though represented by farriers as an intricate and mysterious branch of the art, is, in fact, extremely simple. When the wound is considerable, and some important parts have been injured, the irritating treatment commonly adopted by farriers often destroys the animal; and, in slighter wounds, their stimulating applications rather tend to retard, than promote recovery. In deep and extensive wounds, affecting important parts, every method must be employed, as early as possible, to prevent a fatal inflammation from taking place. Bleeding is the first remedy; and, immediately after, let a purgative or laxative drink be given, receipts for which may be

found under the head *Gripes*, and other diseases. On no account should the wound be probed, or have any tents crammed into it, nor should any stimulating mixture be applied. The emollient fomentation, directed for swollen udder, is the only application, that can be used with advantage, until the inflammation has subsided; the fomenting should be continued for a considerable time, and repeated frequently.

When the inflammation, occasioned by the wound, has been thus removed, it will be proper to examine it with a probe, to ascertain whether any matter be confined or not; as, in that case, it may be necessary to enlarge the original wound, to give it vent, or make an opening in another more depending situation, that it may run off freely. Some stimulating application may also be proper, at this period, such as a solution of blue vitriol; or,

Tincture of myrrh	2 oz.
Sublimate	12 gr.

Mix.

One part of oil of turpentine to two parts of sweet oil form a good digestive, as it is termed. And, if an ointment is preferred—

Take of hogs' lard	. . . .	8 oz.
Bees' wax	. . . .	1 oz.
Common turpentine	. . .	6 oz.

Melt them together; and, when taken from the fire, add one ounce of powdered verdigris; continue stirring the mixture, until it is cold.

With respect to sewing up a wound, as it is called, there are circumstances, which sometimes render it highly improper; in deep wounds, for example, where the external opening is not very large, or in wounds where the divided parts have receded from each other, and there is difficulty in bringing them together: in the former case, the matter would be confined; in the latter, much irritation would be caused by the stitches. In both cases, the inflammation would be considerably increased; but in superficial wounds, and where a flap of skin is separated, it will be proper to stitch it up; but, on no account, should there be any stimulating fluid introduced, such as tincture of benzoin (Friar's balsam), as Dr. Clater advises. It will be sufficient, should there be any dirt, or other matter,

about the wound, to wash it off with warm water. Wounds of the belly, through which the bowels pass out, are highly dangerous, and require the most delicate management. Dr. Clater has advised a variety of stimulating medicines to be applied to the bowel; among which we find camphor, oil of turpentine, and spirit of wine, tempered, however, with ointments, Goulard water, &c.: any of which, except the water, must, we should suppose, produce a fatal inflammation of the part. The first thing to be done, when this accident happens, is to put back the bowel into the belly as tenderly as possible; but if any dirt, hair, or other matter, be observed upon the gut, it must first be carefully washed off with warm water. When the bowel has been replaced, the wound must be stitched up by means of a crooked needle and threads doubled, or small twine, well waxed (with bees' wax): a roller, or bandage, is then to be applied. The animal is to be kept at rest, on a spare, opening diet, of grass or bran; and, if in any degree costive, a dose of castor oil may be given. The treatment of the wound is of little importance; the great object is to keep the bowel in it's situation.

It sometimes happens, that a great deal of air gets into the gut, after it has escaped from the belly, and so distends it, as to render it difficult, if not impracticable, to replace it through the original wound; when, after a careful and patient trial, this is found to be the case, the wound is to be enlarged, so as to allow of the gut being replaced. This must be done cautiously, the knife being guarded by the forefinger.

Bleeding from wounds seldom proves dangerous in cattle, and, if left to nature, generally stops in a short time; indeed, it is by far the best plan not to meddle on these occasions; for, though the bleeding may appear very formidable to persons unaccustomed to such sights, it is really not dangerous; and, unless some large vessel has been wounded, which would bid defiance both to styptics and pressure, it may be safely left to nature. Should it be thought necessary, however, to stop the bleeding, the most effectual method of doing it, next to that of tying the blood-vessel, is pressure, by putting bolsters of tow or sponge on the bleeding part, and supporting it firmly with bandage. During the pro-

gress of the wound towards healing, the new flesh often rises above the surface, or appears to be produced too luxuriantly; to check this, a little powdered blue vitriol, mixed with bole, may be sprinkled on the part.

CHAPTER XXII.

Strains and Bruises.

WHEN these accidents occur in a considerable degree, or if an important part has been injured, bleeding is highly proper. As inflammation is the common effect of these injuries, fomentations are at first the most proper applications; and, when the inflammation has subsided, the liniment recommended for swollen udder may be rubbed on the part two or three times a day. When any part of the limbs has been strained, so as to occasion lameness, if the lameness continues after this plan has been tried, it will be advisable to have recourse to a blister, which will be found more effectual than the most celebrated *strain oils.* (See *Blistering* and *Blisters*, vol. ii.)

In slight bruises, from the pressure of the yoke, or other causes, the following lotion is useful:—

Goulard's extract	½ oz.
Vinegar	4 oz.
Water	1 pt.

Mix.

OBSERVATIONS

ON THE

DISEASES OF SHEEP.

CHAPTER I.

The Rot.

THIS is a serious disease, and has, at some seasons, proved extremely destructive. Various causes have been assigned for this disorder; but, as it is found to prevail most in very wet seasons, and in low marshy situations, it is but reasonable to infer, that an excess of moisture, either taken in with the food, or applied to the surface of the body and lungs, is really the cause of the disease. As it generally proves incurable, prevention is a matter of importance; and this, unfortunately, is not easily accomplished, particularly where large flocks are kept. Changing them from a low damp

situation to one that is dry and elevated seems to afford the only chance of preventing the disease; except they could be sheltered from the rain in a straw yard, and turned out occasionally, as the weather becomes favourable.

The liver and the lungs are the parts principally affected in this disease; and, from the appearance of these organs in sheep, that have been killed at different periods of the disease, there seems but little probability, that we shall ever discover a remedy for it. Mr. Lawrence imagines, that incipient cases of rot may be cured by securing the patients in a straw yard, where they can retire under shelter and go out into the air at will; feeding them with dry provender, and allowing them salt in their water.

CHAPTER II.

Inflammatory Fever; General Inflammation; Blood, or Blood-Striking.

In this disease, the sheep will appear stupid, standing still, panting, and hanging down the head; sometimes they die suddenly. Bleed as quickly as possible, and give two table-spoonfuls of salt dissolved in water.

Some writers advise bleeding above or below the eye; but it is impossible to get much blood from either of these parts. The neck vein should always be preferred; and there will be no difficulty in doing this with a lancet, if the wool be first clipped from the part.

CHAPTER III.

Hydrocephalus, Sturdy, Goggles, Staggers, Turnsick, &c.

"This disease is particularly incident to young sheep, or hogs of a year or eighteen months old. It consists in a collection of water, generally formed upon the external surface of the brain, immediately below the skull, and sometimes, though not often, in the centre or ventricles of the brain. The disorder is first discovered by the animal not keeping up with the rest of the flock, and by it's appearing dull and stupid. It is afterward observed to go round in a giddy manner, and at length appears blind. It may remain a long time in this situation before it dies; and it is said, that sheep have sometimes recovered without any thing being done to them. They are often in good order when they die, as they continue to feed well, until near the last period."

Various remedies have been proposed for this disease: the first is making a perforation

in the skull, and letting out the water, or removing a bladder, or hydatid, which is said to have been found there; another plan is to thrust a sharp wire up the nostrils, until it reaches the part where the water is; the third method is to blister the head, and place setons or rowels under the jaws.

With respect to the second remedy proposed, I suspect it would prove as fatal as the disease. Indeed, from examining the structure of the parts concerned, I can scarcely conceive it to be practicable. The first operation would be found very difficult, and the result extremely precarious; for, if the water happen to be in the ventricles, or centre of the brain, it cannot do any good. In short, it appears most advisable to kill the animal early in the disorder, as the disease is merely local, and does not in the least injure the mutton.

CHAPTER IV.

The Scab.

A CONTAGIOUS disease, which affects the skin, arising often from poverty and uncleanness. It may be known by the sheep being generally found rubbing themselves against gates, or any thing they meet with.

Mercurial ointment, and other powerful remedies, have been recommended for this disorder; but as there is some danger in using them, unless cautiously applied, I would advise the following plan being first tried, and am convinced it will be found effectual in all recent cases. In the first place, let the sheep be well washed with soft soap and water, and, by means of a brush, let the scurf, or scabs, be rubbed off from the affected parts of the skin. When the sheep is perfectly dry, the following ointment is to be applied, taking care that it is well rubbed upon the diseased parts:—

SCAB OINTMENT.

N° 1.

Take of hogs' lard	1 lb.
Oil of turpentine	4 oz.
Flowers of sulphur	6 oz.

Melt the lard over a slow fire, and when fluid, but not very hot, add the turpentine and sulphur, and continue stirring the mixture until it is cold.

The success of this remedy depends, in great measure, upon the above directions being strictly attended to; but as, in obstinate cases, or such as are of some standing, it may fail, the following ointment may be employed:—

SCAB OINTMENT.

N° 2.

Take of strong mercurial ointment	1 lb.
Hogs' lard	1 lb.
Oil of turpentine	8 oz.
Flowers of sulphur	12 oz.

First melt the lard, and, when removed from the fire, add the turpentine; when these are incorporated by stirring, add the mercurial ointment, and let them be perfectly mixed.

Most farriers prefer the sulphur vivum to flowers of sulphur, from an idea that it is stronger; but this is not the fact, unless it happen to contain arsenic, which I have known to be the case. At Sidmouth, in Devonshire, a man, his wife, and one child, were poisoned, by taking for the itch what was sold as sulphur vivum, which it very much resembled, and had been for some time sold as such, but, on a chemical examination, was found to contain a large proportion of arsenic.

It is probable, that arsenic, cautiously employed, would prove a remedy for the scab; but if a preparation, that has no poisonous quality, will answer the purpose, it surely ought to be preferred.

CHAPTER V.

Foot Rot.

A TROUBLESOME disease in the feet of sheep, caused generally by keeping them in the wet marshy ground, or by travelling when the horny part of the hoof has been too much softened by standing in soft ground. It is supposed to be contagious. When a sheep is observed to be lame, and, upon examination, the foot is found to be affected with this disease, give vent to any matter, that may be confined, by paring away the horn; or if the horn is found to cover a diseased part, it should be removed with a knife, that the proper remedies may be applied to it. Caustics are found to be the only effectual remedies for the foot rot. We have given three receipts, or formulæ; the first, or milder preparation, will answer the purpose, in slight, incipient cases; but, in those of long standing, the stronger caustic will be found necessary.

N° 1.

MILD.

Take of sulphat of copper .	2 oz.
To be dissolved in twelve ounces of water.	
To which add of strong sulphuric acid	2 dr.

N° 2.

STRONGER.

Powdered verdigris . . .	1 oz.
Nitrous acid	2 oz.
Water	4 oz.

N° 3.

STRONGEST.

Red nitrated quicksilver . .	1 oz.
Nitrous acid	2 oz.
Spirit of wine	3 oz.

Dissolve the nitrated quicksilver in the acid; and, when perfectly dissolved, add gradually the spirit of wine.

It may be necessary to dilute this sometimes with a little water: and it should be remarked, that, after applying either of these preparations once or twice, the sore part will generally have

a more healthy appearance, and then some mild application will be most proper, such as Friar's balsam or tincture of myrrh. I think it likely, that a mixture of tar and oil of turpentine would prove a useful application in such cases, as it may tend, in some measure, to protect the diseased part from moisture. For some time after the feet have been dressed, the sheep should be kept in a dry place: turning them into a limed fallow has been strongly recommended.

Foot rot sometimes occasions much loss and inconvenience, from the feet being pared, and the remedy applied, in a careless manner. The disease often spreads under the horny matter; and, unless this is carefully removed, no application can do any good. It takes a considerable time, and requires not a little patience, to dress a hundred sheep; but to submit to the trouble at once, and do it perfectly, will be found by far the best and least troublesome plan.

As soon as a sheep is observed to be lame, he should be *immediately* and carefully attended to: when this advice is followed, there will be no difficulty in getting rid of the complaint.

CHAPTER VI.

Diarrhœa, Scouring.

A COMMON disease in sheep, which occurs generally in the spring. It is supposed to arise from being put too hastily into a luxuriant pasture. The disease, however, is easily cured, by changing the pasture, and allowing a moderate quantity of hay daily.

Lambs are very subject to a disease of this kind, which is termed, by the shepherds, *pinning*, from the tail being frequently stuck, or pinned, to the fundament, by a glutinous matter, which flows from it. To prevent this, the part should be smeared with hogs' lard, or the tail cut off. In this case, the disease may generally be cured by putting the lambs into poorer pasture; heathy pasture is said to be the best, on account of the aromatic herbs it produces. Should any medicine be found necessary, a little powdered ginger and

caraway seeds, mixed with gruel, are, perhaps the best. Powdered chalk has been strongly recommended, and may be added to this mixture.

CHAPTER VII.

Dysentery, Braxy.

This disease, I believe, is not very common, but has been very accurately described by Sir George Mackenzie, in his ingenious treatise on the Diseases and Management of Sheep. The animal affected by it lies down frequently, and rises again at short intervals. It eats little, and does not chew the cud. When the disease has advanced a little, the excrements become mixed with blood and slime. At a more advanced stage, they are black and stinking.

Bleeding, in the early stage, is recommended; afterward, one ounce of Epsom salt is to be given, dissolved in gruel: the following day, give small doses of ipecacuanha, about four or five grains in each, every two hours. After three or four doses have been given, should the sheep appear to be in pain,

and the purging not abated, give from fifteen to twenty drops of tincture of opium, in a little gruel; and, if necessary, repeat it in three or four hours.

CHAPTER VIII.

Red Water.

This disease commonly makes it's appearance about the beginning or end of winter, and first affects the parts about the breast and belly. It consists in inflammation of the skin, that raises it into blisters, containing a reddish, watery fluid: these, after a short time, break, and are followed by a blackish scab. The disease is very rarely fatal; but, when it is violent, a little blood may be taken off, and small doses of sulphur given once or twice a day, about two or three drams in a dose. Should the disease continue, give one ounce of Epsom salt, in a little gruel.

Another kind of *Red Water* has been described, said to be caused by "feeding on turnips and succulent grasses. It attacks sheep, that are in good condition, and often destroys them in twenty-four hours." This, however, is a different disease, and consists in

an inflammatory state of the system, affecting particularly the internal parts. Here bleeding is essentially necessary, after which the bowels should be emptied, by giving from one ounce to one ounce and a half of Epsom salt. When the animal recovers, he should not be too hastily turned into the pasture with the other sheep.

OBSERVATIONS

ON THE

DISEASES OF DOGS*.

CHAPTER I.

Distemper.

THIS is a very general disease in dogs, and often proves fatal. It is said, that the disorder has not been known in Britain, until within the last fifty years; but during that time, it is astonishing what a number of dogs have fallen victims to it. It has been asserted, that, except the plague, no disease is so fatal to the animal, which it attacks.

The distemper generally begins with an ap-

* Since the first edition of this volume was published, I have read Mr. Blaine's work on the Diseases of Dogs, and consider it a valuable acquisition to the sportsman's library.

pearance of dulness and want of appetite, cough, watery eyes, and a discharge from the nostrils. As the disease advances, the dog becomes very weak, particularly about the hind parts, and loses flesh rapidly. There is, generally, a convulsive twitching of the head and one of the fore legs; sometimes the dog is attacked with violent fits, running round and foaming at the mouth. In some cases, the disease is accompanied with costiveness; in others, there is a purging, and such tenderness of stomach, that every thing the animal swallows is soon thrown up again. The disease attacks with different degrees of violence, and in some seasons has proved much more destructive than in others. The distemper generally occurs between the age of four and twelve months.

In the treatment of this disease, we must be guided in great measure by the circumstances of the case. In slight cases, where the bowels are not in a loose state, a cure is easily effected, merely by giving a little castor oil, sulphur, or jalap, keeping the animal warm, and giving him warm broth, warm milk, &c. It appears, indeed, that putting him into a comfortable warm place, and nursing him carefully, form

very essential parts of the treatment. Emetics are very commonly recommended, at the commencement of the distemper; but, though they sometimes appear to succeed, I am inclined to believe, they often do mischief. When the eyes are much affected, a large seton, in the neck, will do good. Mr. Taplin imagined, that the distemper depends on an accumulation of hard excrement in the bowels; but this certainly is not the case; and though purgatives are generally proper at the beginning of the disease, one dose is commonly sufficient, for the animal soon becomes too weak to bear any kind of evacuation. When the distemper is accompanied by purging, I know nothing more useful than sago, or arrow root, given frequently; and should this be found ineffectual in checking the looseness, a few drops of laudanum, according to the age and size of the dog, may be added. When the stomach is so irritable as to reject every thing, that is swallowed, a little laudanum should be given; and, if this fail, a very small quantity of wine may be tried.

When every other symptom of the distemper has disappeared, and the convulsive

twitching remains, it is very difficult to be removed: I know nothing so likely to do it, as keeping the dog warm.

Many infallible receipts, and modes of treatment, have been proposed for the distemper; perhaps all of them have at times succeeded, and I have little doubt, that all of them have occasionally failed. In short, it appears that the distemper sometimes attacks with such violence, as to bid defiance to every mode of treatment hitherto discovered; and, that some cases are of so mild a nature, as to be cured simply by warmth and nursing. Though it may not be possible to prevent the occurrence of the distemper by any previous management, I think it probable, that the violence of the attack may be lessened, by not suffering young dogs to wet themselves, or be exposed much to a cold easterly wind. This precaution, perhaps, would be worth attending to, in kennels, when the distemper prevails much, and is found to be of a virulent kind.

CHAPTER II.

Worms.

THE bowels of dogs are often infested with worms, for which a variety of remedies have been recommended*. Mr. Daniel, in his Rural Sports, recommends aloes, hartshorn, the juice of wormwood, with some flowers of sulphur, mixed together into a ball, about the size of a hazel nut, which is to be wrapped up in butter, and given two or three times a week, letting the dog fast for a few hours each time. This, he says, will effectually destroy the worms. He also says they may be destroyed by giving the dog as much finely powdered white glass, as will lie on a sixpence, for three successive mornings, mixed up with butter; if the worms are not voided in that time, the dose of glass is to be increased and

* As oil of turpentine has been found so efficacious a vermifuge in horses, I think it is worth a trial on dogs, Particularly when the other remedies have failed.

given for three other mornings; in which time, he says, it will scarcely ever fail of producing the desired effect. Pewter filings, as much as will lie on a shilling, have been recommended as an effectual remedy for worms; I am inclined, however, to believe, that the following mixture is the best vermifuge, that can be employed.

Jalap . . .	from 10 to 15 gr.
Powdered aloes	from 3 to 5 gr.
Calomel . . .	from 2 to 3 gr.

To be mixed with a little butter, and given early in the morning. The dog to be tied up till the third day, and not allowed to take any cold liquids.

CHAPTER III.

Madness, Hydrophobia.

THE first symptom of this dreadful malady appears to be a slight failure of appetite, and a disposition to quarrel with other dogs. A total loss of appetite generally succeeds, though they sometimes lap water the day before their death, which generally happens between seven and ten davs after the first symptoms have appeared. A mad dog will not cry out on being struck, or show any sign of fear on being threatened. In the height of the disorder, he will bite all other dogs, animals, or men. When not provoked, he usually attacks only such as come in his way; but, having no fear, it is very dangerous to strike or provoke him. Mad dogs appear to be capable of communicating the infection early in the disorder, and as soon as they begin to quarrel with and bite other dogs. The eyes of mad dogs do not look red or fierce, but dull; and have a pecu-

liar appearance, not easy to be described. Mad dogs never bark, but occasionally utter a most dismal and plaintive howl, expressive of extreme distress, and which they, who have once heard, can never forget. Mad dogs do not foam, or froth at the mouth; but their lips and tongue appear dry and foul, or slimy. Though mad dogs, generally, refuse both food and water, in the latter stage of the disorder; yet they do not show any abhorrence of water, will pass through it without difficulty, and lap it eagerly to the last, without appearing to experience any uneasiness from it; but they do not swallow a drop. It is seldom in less than ten days, that the symptoms appear after a dog has been bitten; in some instances it has been six or eight months before the disorder has appeared. Mr. Meynell has given a very accurate description of this dreadful disorder, which appears to be the result of much experience; and he is fully persuaded, that the disorder never originates from hot weather, putrid provision, or from any other cause but the bite. He thinks, the most certain sign of beginning madness is an unusual disposition to quarrel with other dogs; and, that the disorder always comes on so gradually,

that mischief may be prevented by proper care.

Many remedies have been proposed for canine madness, but all of them appear to have failed after a fair trial. Cold bathing seems to have held it's reputation longer than any other, both as a preventive and as a remedy. It was recommended about two hundred years ago, by the seigneur d'Esparron, in his "Fauconneric," who relates a wonderful instance of a "mad dog being thrown into a river, with a cord about his neck, which, being entangled in the root of a tree, kept him under water, except as much of his nose as enabled him to breathe. In this situation he remained for three days, when he got loose, and returned to his master's house as cheerful and healthy as ever he was."

As we are not acquainted with any means of curing this disorder, prevention is an object of great importance; and the only effectual mode of accomplishing this is to cut out the bitten part completely, and apply either the actual cautery (red hot iron), or some powerful caustic, to the wound. Nothing short of this should ever be depended upon. And as it is of consequence to know

some criterion by which the beginning of this disease may be distinguished, it may be proper to repeat, that the most certain sign we are acquainted with is an unusual disposition to quarrel with other dogs.

We cannot dismiss this subject without noticing an operation, that has been considered as a preventive of madness, even from the time of Pliny. This wonderful operation is termed *Worming;* and, from the following description of it, which we have taken the liberty to copy from Mr. Daniel's Rural Sports, one is almost persuaded to believe, that there is really something like a worm under the dog's tongue; and that, if a dog happen to be infected with madness after this *terrible worm* has been extracted, his tongue swells to such a degree as to render him incapable of closing his jaws, or biting.

"The worming of whelps should be previous to their being sent out to quarters. This operation is to be performed with a lancet. The skin being opened, which immediately covers the *worm*, a small awl is then to be introduced, so as to raise it up. The farther end of the *worm* will, with very little force, make it's appearance; and, with a cloth,

taking hold of that end, the other will be drawn out easily."

So says Mr. Daniel, in his "Rural Sports." I have often performed this operation, but cannot say, that I had any expectation of it's doing good, or felt the slightest confidence in it's prophylactic power.

CHAPTER IV.

Mange.

There are two kinds of mange to which dogs are liable; one appears to be a local disease, and readily cured by a mixture of sulphur, hog's lard, and turpentine; the other, commonly termed "Red mange," often proves very obstinate, and can seldom be eradicated without the assistance of mercurial preparations, taken internally.

I have given small doses of sublimate (about the fourth part of a grain) with success, in this disease; at the same time, however, I have always used the sulphur ointment. I have known small doses of calomel, also given with good effect; but I am inclined to believe, that the external use of sulphur is essentially necessary in both kinds of mange.

CHAPTER V.

Canker of the Ears.

An ulceration of the extremities of the ears, which, in sporting dogs, proves very troublesome.

The most effectual mode of curing it is to cut off the diseased part; and, afterward, so confine the ears, that the dog may be prevented from shaking them. The next remedy, in point of efficacy, is the lunar caustic, or nitrat of silver; but the sore will seldom get well, unless the dog is prevented from shaking his ears.

OBSERVATIONS

ON THE

DISEASES OF SWINE.

MR. LAWRENCE very candidly acknowledges, that, though he has paid great attention to this subject, and suffered considerable loss from it, "he knows very little of the matter; and that you may as well doctor, or drench, the devil as a pig."

The most formidable disorder to which these animals are liable is inflammation of the lungs, and other internal parts, for which bleeding and opening medicines are undoubtedly the grand remedies; but there is some difficulty in performing the operation of bleeding upon pigs. The method commonly adopted is to cut off part of the ears or tail; but a sufficient quantity of blood cannot be drawn in this way. The best mode of bleeding, I have seen, is to

open a vein in the roof of the mouth, about an inch from the front teeth, in a line between the second and third tooth; afterward, about two ounces of castor oil should be given. Sulphur is a good laxative for pigs; the dose, from two to three drachms. Epsom salt, also, is a good purgative; the dose, from one to two ounces.

DIRECTIONS

FOR PERFORMING THE

OPERATIONS IN FARRIERY.

CHAPTER I.

Throwing Down, or Casting.

IN the former part of this work nothing has been said of the operations of farriery, an omission which many readers (particularly the gentleman to whom this book is inscribed, and at whose suggestion it was written) have complained of: the author has therefore been induced to annex to the present volume a particular description of each operation, with the manner of throwing down, or securing a horse, so that they may be performed with safety to the operator as well as the animal. The instruments used for this purpose are termed

hobbles (see plate i, fig. 2), and consist of strong leather straps, one for each leg.

The hobble is about two feet in length, two inches and five eighths in width, and about three eighths of an inch in thickness. It is formed by a strong piece of leather, about four feet in length, which, being doubled, has a strong brass or iron buckle included at one end, and firmly sewed in: about four inches and a half farther back, a large brass ring is to be sewed in, in the same manner, for the purpose of admitting a strong rope to pass through it easily. The brass ring must be very strong, it's width corresponding with that of the hobble, and sufficiently open to admit a larger rope. This is particularly necessary to be observed in one of the fore hobbles, to which the rope is to be firmly tied, which will of course occupy some part of the opening. The remaining part of the leather is to be strongly sewed together, which will make the thickness of it what we have before described. Several holes are to be punched at this end of the hobble, to admit the tongue of the buckle when put round the horse's leg. On the under part of the hobble a piece of thin and wider leather is to be fixed, extending from the part

Plate I.

Fig. 1.

Fig. 2.

Fig. 3.

Wm. Traice Delt.

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where the ring is attached to about half an inch beyond the extremity of the buckle: this is intended to prevent the latter from galling the horse's leg. The rope should be very strong, not twisted tight, but made flexible, like a bell rope, and about five or six yards in length.—See plates iii and iv, in which the hobbles are represented on the horse's legs.

One end of the rope is to be permanently fixed to one of the hobbles for the fore legs, and this must be done carefully and firmly. If the horse is to be thrown on his right side, this hobble must be put on the left leg, and the contrary. The hobble must be fixed below the fetlock joint, and buckled on sufficiently tight, to prevent the foot from slipping through it. If the hobble, to which the rope is attached, be placed on the near fore leg, the other end of the rope is to be passed first through the ring of that on the near hind leg, then through that on the off hind leg, next through that on the off fore leg, and, lastly, through the ring of the near fore leg. By this contrivance, it will be readily seen, that, by means of three or four men, the horse's legs may be drawn together, so that he must of necessity fall down. It is proper to observe,

however, that he will fall much more easily, if one hold him firmly by the head, standing in his front, and another on his near side, near his tail, to push him when his legs are drawn together and he is in the act of falling. Without this precaution, a horse will sometimes fall on the wrong side; a circumstance, which causes inconvenience: he may also fall not exactly in the situation designed for him; which, in confined situations, may prove dangerous.

Another circumstance to be attended to is, that of bringing the legs as near to each other as can be done, and the hind legs under the body, before any attempt is made to throw the horse. The operation will also be greatly facilitated, if the assistants, who are to pull the rope, instead of standing as far off as they can, place themselves as near the horse as is consistent with their safety; they will then have much more power, and throw him much more readily and safely.

Horses may be thrown in a field, unless the grass is bare and the ground hard: they may be safely thrown, indeed, in any place, provided there is a proper quantity of litter, or straw, for them to fall upon.

Thus far we have described the method of *casting* a horse, as it is commonly termed; but, in order to perform the various operations, other contrivances are often necessary, which we shall proceed to explain. This, however, must be considered as the first step in all of them.

There is, however, another method sometimes employed to hamper a horse, termed the *side line;* but it is by no means so secure a plan as the other. The hobble before described is to be placed on the near hind leg; the rope is then to be brought up under the belly, between the fore legs, or outside the off fore leg, and across the off shoulder, or rather the neck. The end is then to be passed under the rope that has been brought up between the fore legs, or on the outside of the off fore leg at the chest. This being done, the near hind leg is to be drawn up under the belly, and confined in that situation. This plan, with the assistance of a twitch, is sometimes adopted in nicking, docking, or firing the *off* hind leg; but it is far less secure than *casting*.

To cast horned cattle another method is commonly employed. A long rope is doubled, and tied in a bow at the doubled end, of suf-

ficient size to go over the animal's head, and rest at the bottom of his neck like a collar. The two ends, of equal length, are then to be brought down between the fore and hind legs, and one of the ends round each hind leg. The ropes being now drawn by the assistants on both sides towards the head, the hind legs are soon drawn forward, so as to be no longer a support to the body, and the animal of course falls.

CHAPTER II.

On Castration, Gelding, or Cutting.

THERE are two methods practised for securing a horse, in order to perform this operation. In the first, the horse is placed on his left side; a collar, made of strong coarse web, doubled, for greater security, is to be placed round his neck; another piece of web, with a loop at one end, is to be passed round the upper hind leg, below the fetlock; the other end is to be passed under the collar, for the purpose of drawing up this hind leg towards the shoulder and thereby expose the part to be operated upon. Great caution is necessary in doing this, as the horse has great power with his upper hind leg when the hobble is taken off, which must be done to admit of the leg being drawn up sufficiently. It is advisable, therefore, to pass the web again round the hind leg and under the collar, and have it firmly held by an assistant, before the hobble is removed: this having been done, let the leg be gradually

drawn up, and the web kept tight and firm as it advances, until it is brought upon the fore leg, or as far as it can be drawn, and in this situation let it be firmly secured. It will be a farther security, and I do not think it unnecessary, to put another piece of web on the leg, above the hock, and fasten it to the collar, like the former.

Another method of securing the horse is to place him upon his back, and bolster him up on each side with straw or litter. It is necessary, however, in this case, to place him under some beam or rafter, over which the hobble rope is to be thrown. All his legs may then be drawn up, so as to keep him more firmly upon his back; it will also secure his fore legs, when the hobbles are removed from the hind ones, which must next be done, that both hind legs may be drawn up to the collar, as we have before described for the upper hind leg in the former mode of securing the animal; in doing this it is particularly necessary to be cautious, and to take care, that the feet are drawn up as near the collar as possible, and in that situation firmly fastened. As the horse, during the operation, generally draws his thighs together, so as to render it inconvenient to get at the tes-

ticles, an assistant should be placed on each side with pieces of web passed round the limb, in order to keep them asunder as much as possible.

METHOD OF PERFORMING THE OPERATION.

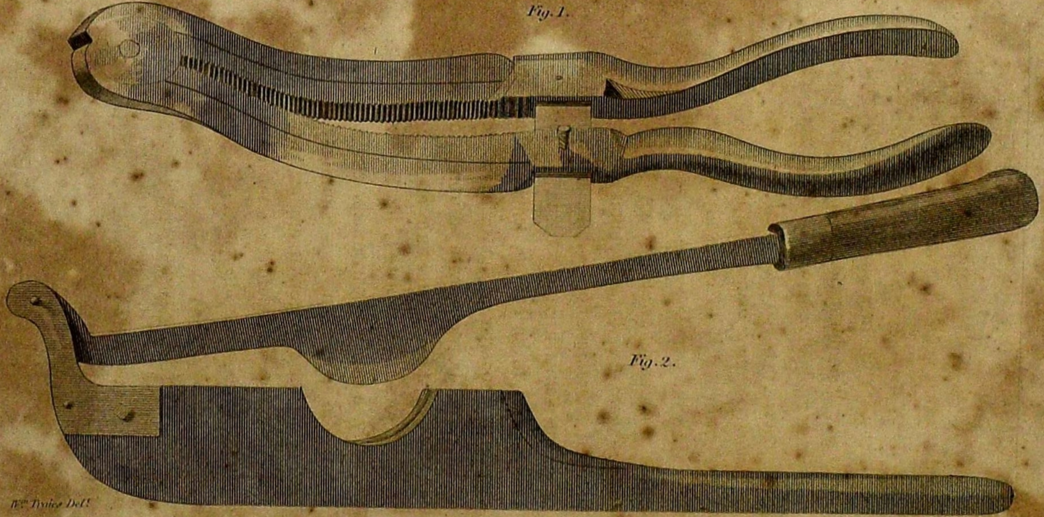
The horse having been carefully secured, according to the foregoing directions, the operator is to grasp the testicles, with his left hand, at the lower part, so as to bring them forward, and make them as prominent as possible: in this position they are to be steadily and firmly held, so that the skin may be tight and readily cut. An incision is then to be made over each testicle through the skin only, about four inches in length. This incision must not be so deep as to wound the testicle; and, though only one of them is to be exposed at a time, I advise the skin over both to be cut at first, as it will serve as a mark for the operator in bringing out the second testicle; this, however, is not a matter of great importance. Still grasping the part, he is gradually to dissect farther, until a little fluid appears; he has then cut through the last coat of the testicle; for between this and the testicle there is a separation containing a small quantity of fluid.

The division, in this last coat, may be completed most conveniently with a pair of scissors; it should be made to correspond with the incision first made in the skin. The testicle will now make it's appearance, and is to be carefully and gradually drawn forward, and it's cord placed between the branches of the instrument termed clams (see plate ii, fig. 1). Between these it is to be firmly embraced, so that when the testicle is cut off the rest may not slip through, which, from the violent struggling of the animal, generally happens, unless this circumstance is attended to, and a dangerous hemorrhage may ensue *. The testicle is now to be cut off, leaving about an eighth or a quarter of an inch for searing, which is to be done with an iron nearly red hot. The most convenient form for the searing iron is represented in plate i, fig. 3. It is not necessary to sear the part much, nor is there occasion to apply resin, as is commonly done; but, before the hot iron is applied, any blood that may appear should be removed with a sponge. The clams are now to be removed,

* That part of the spermatic cord, which conveys the semen from the testicle, named *vas deferens*, may be divided before the clams are applied; but this is not a matter of importance.

Fig. 1.

Fig. 2.



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and the other testicle treated in the same manner.

The horse should now be extricated, and suffered to get up. It sometimes happens, that the parts bleed after the operation, particularly in old or full grown horses; and, in some instances, I have seen the bleeding so considerable, as to cause great alarm: but I have never known it productive of danger or inconvenience, nor should any attempt be made to stop it, except leaving the horse by himself, in a cool stable, until it ceases.

It will be remarked, perhaps, that I have not directed any dressing for the part after the operation, nor any preparation or management previous to it. With respect to the first opinion, that no kind of dressing is necessary or proper, I can truly say, that it is the result of an extensive and successful practice; and, with regard to preparation, should the subject of the operation be a full grown or aged horse, kept in the stable, and well fed, it will be advisable to bleed moderately, and give a dose of laxative medicine.

Much has been said, by writers on farriery, on the subject of castration. La Fosse says that " the *ligature*," that is, tying the cord

instead of searing it, "should always be preferred; and that the hot iron ought never to be employed, still less the knife." Mr. Blaine informs us, that the ligature is highly dangerous; that an eminent surgeon, Mr. Cline, performed the operation in this way upon two horses of his own, and that they both died. I have lately been informed, that Mr. Sewel of Bath employs the ligature with success. This author also directs the parts to be dressed, after the operation, with pledgets of lint, wetted with mild spirits; and adds, that, "*if any bandage be used*, it should be loosely applied, so as not to irritate." Another advises, that the parts be dressed with a mixture of spirit of wine and digestive ointment. I can confidently assert, that, during the last ten years, I have been in the habit of castrating horses of different ages, that is, from one to nine or ten years old: I have operated under a variety of circumstances, that is to say, upon colts of all ages, before breaking; upon full grown horses, accustomed to the stable and in good condition; upon horses, that had been upon the turf; and upon horses that had covered only a short time before: that the operation was performed precisely in the manner I have before

described; and in no one instance has it been followed by any thing like an alarming symptom. It is necessary, however, to observe, that, in whatever manner the operation is performed, some degree of swelling generally takes place, about two or three days after; sometimes it is so considerable, as to cause alarm. Mr. Blaine advises, on such an occasion, " bleeding and purging, bathing the parts with Goulard's lotion, and passing a seton on the inside of each thigh, smeared with blistering ointment:" but all this is absolutely unnecessary, nor need any danger be apprehended, however large it may be. In one day, it may be nearly, if not wholly removed, by the following method. Let the lower parts of the swelling be scarified; that is, let about twelve punctures be made with a lancet about a quarter of an inch in depth, at a little distance from each other; a horse lancet is better than a smaller one for the purpose. Drops resembling blood will at first issue from each orifice; but they will gradually appear more and more limpid, until they become as clear as water: this will continue to flow, until the swelling is considerably reduced, if not wholly removed, and nothing farther is necessary to be done.

It is not advisable to castrate horses in very hot or in very cold weather; spring and late in the autumn are to be preferred. After the operation, if the horse has been accustomed to the stable, he should be turned loose into a cool box, and fed, for the first four days, upon hay and mashes, or grass, if it can be procured; after this, he should be gently exercised, and have a small allowance of corn, which, as well as his exercise, may be gradually increased. If it be a colt, accustomed to grass, he may be turned out again immediately after the operation.

CHAPTER III.

Nicking.

THIS cruel operation has become rather unfashionable, within a few years; though it must be confessed, that some horses carry their tails so ungracefully, as to have their appearance much improved by it. To secure a horse for nicking, many practitioners place him in a machine called a *break*, by which he is prevented from lying down or kicking. Others prefer *casting*, or throwing the horse; and this is the plan I have generally adopted. Three transverse incisions are then to be made in the under part of the tail, so as to divide completely the muscles by which the tail is drawn downwards. The first incision should be from two to three inches from the basis, or beginning of the tail, continuing it from one side, or where the hairy part terminates, to the other. The second incision should be made in the same manner, about two inches, or two

inches and a half, from the first; and so with the third. When the second incision has been made, part of the muscle will make it's appearance on each side of the first nick, provided both incisions have been made sufficiently deep; this projecting flesh may be drawn out with a hook, and cut off. And when the third incision has been made, the same will take place at the second nick, and is to be likewise cut off. Having thus finished the operation, a large firm pledget, or bolster of tow, is to be placed on the first nick, and firmly bound down with a linen bandage, which is to be tied on the upper part, that it may be more easily removed when necessary. If the bleeding is considerable, which often happens, this bandage need be tied rather tight, in order to stop it. The second and third nicks are to be bound in the same manner. Various dressings have been recommended, such as powdered resin, honey, and spirit of wine: digestive ointment, &c.; but I have found, after nicking many hundreds of horses, that a bolster of tow, as I have described, is the only dressing necessary. The horse is now to be put in the pulley, as it is termed, a description of which is unnecessary, as it may be

seen in any horsedealer's stables. The weight to be applied at first, in order to keep the tail up, should be moderate; and it is of the highest importance, that the ligatures, or linen bandages, should be carefully untied, or cut, the following morning, so that the upper part of the tail may be perfectly free from pressure. Many horses have been destroyed by neglecting this precaution. The bandages, however, must on no account be forced from the wounds, to which they will be found firmly adhering; but the loose ends may be cut off with a pair of scissors. In two or three days suppuration will take place; that is, matter will be formed on the surfaces of the wounds, by which the dressings will be detached and fall off. A large gaping wound will then appear. This apparently formidable wound has long exercised the ingenuity of farriers and jockies. Various salves, balsams, &c. have been proposed and employed for the purpose of *deterging*, *incarnating*, and *cicatrizing* this dreadful gash; but the fact is, that, if we wish it to heal in the most speedy manner, and with the least inconvenience to the animal, the best plan is to leave it entirely to nature, not even to clean the nicks, but let them be constantly exposed to the air.

Though perfectly convinced of the propriety of this method by long experience, I put it to the test of comparison, which, in the army, I had ample opportunity of doing. Of twenty nicked horses, ten of them were treated according to art; that is, they were carefully cleaned and dressed with the most approved salves, or ointments, every day. The other ten were left as I have described, entirely to nature, and were healed many days before the former. About the third day after nicking, the weight, which is employed to raise the tail, may be increased to five or six pounds; and the line upon which the pulley runs should be placed farther towards the horse's head, so that the point of the tail may incline a little more towards the horse's back. I would not advise the tail being taken out of the pulley for a week or ten days; the hair may then be untied and combed out. As to washing it with hot vinegar, alum, and honey, or any other preparation, I believe it to be unnecessary. Cooling the tail, simply by moistening it with water, by having a wet sponge fastened to the comb, will do every thing that can be done; but more or less of the hair will generally come off. When the horse is taken from the pulley, and the tail combed out, he may be exercised

for an hour, which will tend to prevent swelling of the legs, and other diseases. The whole time of a horse's continuing in the pulley should certainly not be less than three weeks; and though, after the first week, or ten days, he should be exercised daily, it is not necessary to untie or comb out the hair every time he is taken out; once in four or five days will be sufficient.

CHAPTER IV.

Cropping.

This operation has become still more unfashionable than the former; and has nearly, and very properly, been exploded. It is so extremely simple, that it scarcely need be described. An instrument resembling the clams employed in castrating, but longer and rather more curved, is the grand machine. The ear is placed between it's branches, and the instrument is so inclined, as to give any kind of crop, that may be required. When this point has been ascertained, the instrument is to be firmly closed, so that the ear cannot slip through it; then, with a large sharp knife —a carving knife for example—at one sweep, the ear is to be removed. The clams being taken off, nothing farther is to be done. As it is thought highly necessary to make both ears alike, the part that has been removed from the first ear must be employed as a guide

in adjusting the clams for the second. No kind of dressing or cleaning is necessary. Great care, however, should be observed, on putting on the bridle, as the horse will, for some time, be shy of having his head touched; which may continue a considerable time, and prove extremely inconvenient, unless he is carefully and tenderly handled.

CHAPTER V.

Docking.

This is a painful operation, to which most horses are obliged to submit. It is soon done, however, and does not prevent a horse from working immediately after. Having determined on the length of tail to be preserved, tie back the hair upon that part, that is, as much as grows from it; a little is then to be cut off, for the space of an inch from the part to be amputated, that the instrument may be more conveniently applied: this instrument is commonly termed a *docking machine* (see plate ii, fig. 2), and may be purchased at the veterinary instrument makers. After the tail is amputated, the most painful part of the operation takes place; that is, searing the bleeding surface with a red hot iron, in order to stop the bleeding. When this, however, is done moderately, no inconvenience follows, and the horse may be put to work immediately. I must not omit, however, to observe, that I

have seen locked jaw succeed this operation in one instance, which no doubt was occasioned by burning the part with unnecessary severity. No kind of dressing is required, not even the resin, which is so commonly used.

CHAPTER VI.

Firing.

THE effects of this operation, and the diseases in which it is employed, have already been explained: we have now only to describe the manner in which it is to be performed.

Previous to the operation, the hair is to be cut as closely as possible from the affected part; if this is not done, so much smoke will arise as to prevent the operator from seeing distinctly what he is about; and even if it be carried off by a current of air, it is impossible for him to fire with the precision that is necessary. The horse having been thus prepared, should be thrown down; for no one should be allowed to attempt this operation while the horse is standing, as it is impossible for him, in that situation, to do it properly.

If the fore leg is to be fired, take a strong piece of coarse web, as we have directed to be used in castrating the horse, and place it round the fore leg, a little above the knee;

the other end is to be put round the hind leg, above the hock, where it is to be secured; this is intended to prevent the fore leg being thrown beyond a straight line, during the operation. The hobble may now be removed, and the leg drawn out by an assistant, as far as the web will allow it to be extended, by means of a small rope, fastened round the horse's foot, above the heels of the shoe; by this means the leg will be kept steady while the iron is applied. The operator must be upon his guard against the horse's struggling, which is sometimes considerable; some horses, however, particularly such as are well bred, submit to it very quietly.

In plate iii, fig. 1, is represented the direction in which, for some time past, I have drawn the lines with the iron, and have experienced the best effects from it. Other practitioners generally prefer the penniform lines, and some simply perpendicular lines all around the leg. The only criterion for determining when the iron has gone far enough is this: the fired line will appear of a dark brownish colour, which is caused by a destruction of the cuticle, or scarf skin. The skin itself should never be penetrated by the

iron, or even wounded; but this will often happen, after the iron has been heated several times, by it's edge becoming thinner and saw-like; every time, therefore, the iron is brought to the operator he should give it a smooth round edge with a Norway stone. The only occasion I know of for wounding the skin with the hot iron is in old and obstinate cases of grease, where the part is much enlarged, and covered with excrescences; discharging, also, stinking matter, and often, in summer, harbouring maggots. It has been thought necessary, also, in the disease named ring-bone, to carry the iron so far as to wound the skin, and farriers often go quite through it; but all the *curable* cases of ring-bone may be removed, I believe, by the mild kind of firing I have described. I saw one horse fired for a ring-bone, in this severe manner, and he did not survive the operation more than a few days.

When the inside of the hock is to be fired, of the near leg, for example, the horse must lie on his near side; and a collar, made of strong coarse web, doubled, should be placed on his neck. The web used for the fore leg should be then put round the upper hind leg, below the fetlock, and the opposite

end passed through the collar, so that the off hind leg may be drawn towards the fore leg, and leave the part to be fired fully exposed: great caution, however, is necessary in doing this, and the person, who holds the web, should be constantly on his guard. The off hind leg is then to be unhobbled, in order to admit of it's being drawn sufficiently from the under hind leg. The horse, in this position, has great power; and, if he happen to struggle much, which is often the case, and the web is not held firmly, any one, standing within reach of the hind leg, may be dangerously kicked: it is advisable, therefore, to bring back the end of the web, give it another turn round the heel, and pass it once more through the collar. The leg should be gradually drawn forward, not by jerks, or roughly, as that would induce the horse to struggle; and when sufficiently forward the end of the web should be secured, either by a person holding it, or by making a slip knot at the collar. The direction of the fired lines for the hock is similar to that we have described for the fore leg.

To fire a horse for curb, he is to be placed in the position we have just described; but in this case it is necessary to fire the outside also,

for which purpose the leg may remain in the hobble. When a horse is to be fired in both legs, it is of little consequence on which side he is thrown, as he may easily be turned over. In firing the outside of the stifle there is no difficulty, but it is not so easy to get at the inside. To do this the leg to be fired, or under leg, should be drawn forward as much as can be, while the upper leg should be held back by means of the rope, which is attached to the hobbles.

It is difficult, also, to secure a horse to fire for ring-bone; for, when the outer side is to be operated upon, the hobble must be taken off, and the web would be in the operator's way, if placed under the fetlock, as on other occasions. If it be placed above the fetlock, it will soon slip down, when the horse struggles, unless drawn very tight. It is advisable, therefore, to place another piece of web like the former, above the hock, bringing both ends under the collar, and back again round the leg and above the hock. In this way the leg may be safely drawn up and secured, while the pastern, or part to be fired, will be completely exposed.

CHAPTER VII.

Blistering.

It has been observed, by many of my readers, that I have not been sufficiently explicit in describing the method of blistering a horse, and of managing him after the application. This omission was occasioned by a consideration, that so common an operation was already too well known to require any farther explanation. I will now, however, endeavour to give particular instructions for blistering a horse.

The part intended to be blistered should have the hair as completely cut off as possible; and, if it were then washed with soap and water, the blister would more readily produce the desired effect. When perfectly dry, let the blistering ointment be well rubbed upon the part for two or three minutes, then spread a little more over it without rubbing, and the operation is finished. It is necessary to secure

the horse's head to the rack, so as to prevent his rubbing off the ointment with his nose and lips, which he will do, if his halter is sufficiently long to admit of it. The following day, the horse may be turned loose into a box, or large stable, provided he has what is termed a *cradle*, or necklace, round his neck, to prevent his touching the blistered part with his nose. The necklace consists of about six round pieces of wood, of about an inch in diameter, and from eighteen inches to two feet in length, rounded at each end. A hole is to be bored through the wood, within about two inches of each extremity, through which a cord is to be passed, so that it may be tied round the horse's neck. The pieces of wood may be kept at some distance from each other, either by tying knots in the cord, or by interposing pieces of bored wood between them. This contrivance will prevent the horse from bending his neck so as to touch the blistered part with his mouth.

About three days after the blister has been applied, if it has produced considerable inflammation, the part should be soaked with warm water in which a little potash has been dissolved, or simply with warm water. Afterward,

let it be frequently sponged with cold saturnine lotion, until the inflammation and swelling shall have abated. It is necessary to observe, that some degree of swelling must be expected from blistering; and it is only when it becomes excessive, that this after-treatment is necessary. On common occasions, the blistered part should be well oiled, after four or five days; and, when the incrustation formed by the blister has been sufficiently softened, it should be washed off with warm water and soap. A blister should never be repeated, until the effect of the first has perfectly subsided.

CHAPTER VIII.

An improved Method of constructing a Rack and Manger for Waggon and Post Horses; applicable, also, to stalled Stables.

In the common way of keeping waggon and post horses, there is no kind of separation between them, so that accidents frequently occur from their kicking and biting each other; and it may be observed, that these quarrels generally take place at the time of feeding.

Another, and a very considerable inconvenience, arising from this method, is, that the horses feed unequally; and it may often be seen, that one, being master of the rest, will turn himself round, and drive them from him, as far as his halter will admit; so that they are huddled together, and prevented from lying down.

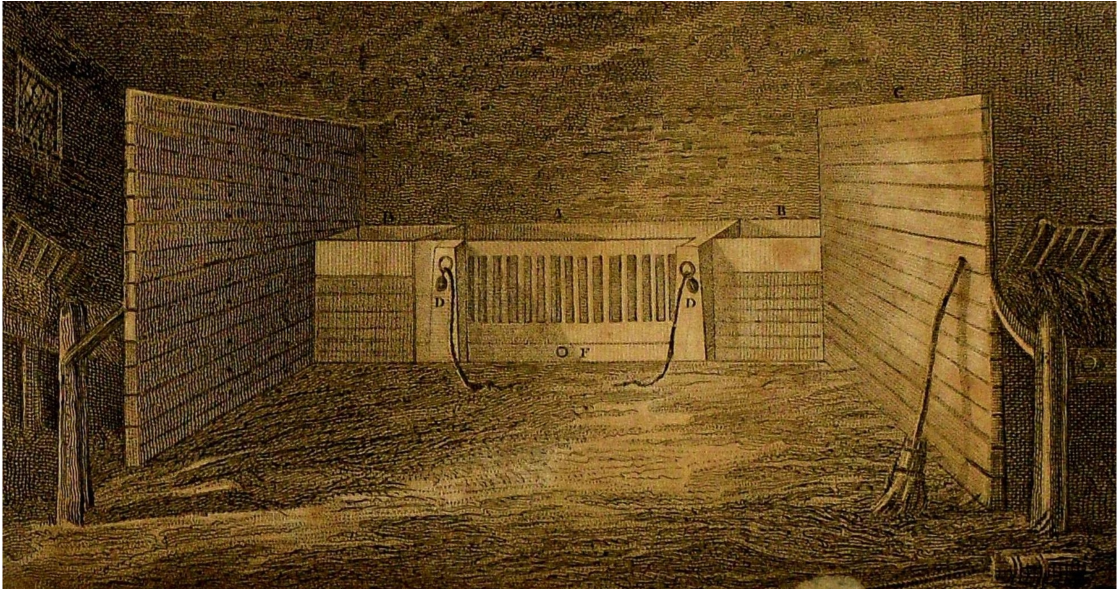
The only possible advantages, that have been, or can be ascribed to this mode of keeping

horses are, that a greater number can be kept in a given space, and that the expense of stalls is avoided. These, it must be allowed, are weighty considerations with postmasters, &c., who are generally confined with respect to stable room.

I have now to offer some observations on the common method of constructing the rack, which is too well known to require any description; two reasons only, I believe, can be assigned for this. The first is, that the hay being generally kept in a loft, or room, immediately over the stable, it affords great convenience for placing it in the racks without waste; and that, as the horse is obliged to lift up his head, in order to get at the hay, it may cause him to carry it more gracefully. With respect to the disadvantages of the plan, they are certainly more numerous and considerable. In the first place, the propriety of keeping hay immediately over the stable is questionable, as it is well known, that great part of the foul air, and other vapours, that arise from the stable, must pass through it, particularly when the ceiling of the stable is not plastered; but the ammoniacal vapours of the stable will pass even through a plastered ceiling, which may

be ascertained by sleeping in a room so situate. Secondly, any one acquainted with horses must have observed, that many of them have a habit of pulling hay out of their racks; some, indeed, will not touch a bit until they have pulled out the whole. Great part, it is true, they will afterwards eat from the ground, finding it, no doubt, a more easy position to feed in, because it is more conformable to nature; but no one can deny, that some portion of it must necessarily be trampled upon and spoiled. In the new method of constructing a rack and manger, all these disadvantages are removed; not only will the frequent accidents we have noticed be prevented, but none of the hay will be spoiled or wasted; and another accident, which we forgot to mention, will be effectually prevented (an accident, too, not of unfrequent occurrence); that is, entangling themselves, or, as it is commonly termed, *casting*, or hanging themselves in the halter, strap, or chain, by which they are tied to the manger. I have known horses destroyed by it, and it is often the cause of severe injuries of the legs and heels.

Another advantage attending the plan I am about to describe is, that a horse may eat his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hay as he lies down, without waste: and, as rest is so necessary for post and waggon horses, who have often only a short time allowed for this purpose, this surely is a circumstance of no trifling importance.

A plan of the rack and manger is annexed (plate iv), from which it will be seen, that only a short partition is made between each pair of horses, just sufficient to prevent their biting or otherwise interfering, or partaking of each other's feed; and this it effectually does, from the horse's requiring only a very short halter. It should be recollected, that horses working in pairs, as post, coach, and waggon horses, are well acquainted and friendly, therefore, any two horses, that are in the habit of working together, may be put into one of these stalls; and even here, though the hay crib is in common, they cannot well partake of each other's corn. It will be observed, also, that a very short halter is sufficient to allow them to lie down with ease, and that they have no opportunity of hurting themselves by rising suddenly, while the head is under the manger, as the whole front of each manger may be boarded up.

I have measured waggon and post stables,

and find, that the space generally allotted for eight horses is about sixteen yards. If such a stable were divided into four of the stalls above mentioned, the same number of horses would be much more conveniently accommodated, a considerable quantity of hay saved, and those accidents avoided, which we have before enumerated. It is unnecessary, perhaps, to add, that the same kind of contrivance is equally advantageous in a single stall stable. The only difference is, that half the space would be sufficient; and that only one manger, and a shorter crib, would be required. The utility of this plan has, for some time, been experienced by the honourable Newton Fellowes, of Eggsford, Devonshire; and though the idea does not appear to have originated with this gentleman, yet he has materially improved it, and was the first who suggested it's application in post and waggon stables*.

* The public are much indebted to Mr. Fellowes for the great zeal he has shown in improving every thing that relates to horses, particularly in breeding. He has at this time by far the finest colts the author has seen in the west of England.

OBSERVATIONS

ON

EPIDEMICAL DISEASES IN HORSES.

THE epidemical diseases of horses generally assume the form of catarrh, or cold; affecting, principally, the membranes of the nose, throat, windpipe, and lungs; and are often accompanied with fever. The disease varies considerably in degree; sometimes attacking with great violence; at others, so inconsiderable as to require only an opening diet, and a few doses of some cooling medicine, such as nitre, for it's removal.

Osmer, in his treatise on the diseases of horses, has given a good description of an epidemic, which raged among horses in the year 1750. Some, he observes, had a discharge of matter from the eyes, nose, and mouth; others had none; but in all there

were tokens of inflammation, attended with fever and a violent cough. Most of the horses, which had a discharge from the nose, &c., lived: and, where such discharge did not happen, or a critical abscess fall on some part, most of them died. He was led to try the use of rowels, and soon experienced a good effect from them; the horse, in about thirty hours, becoming more cheerful and recovering his appetite, and, in another day, generally appearing quite well. Rowels had the same good effect in horses, that had a discharge at the nose; and they got over the disease much sooner than those, who had no such assistance. If the horse be attacked with violent fever, and a dry cough, without any discharge from the nose, he advises his being bled largely; but observes, that, whenever there was a discharge from the nose, bleeding appeared to do harm. In both circumstances, he advises a dose of cooling salts every six hours, and clysters occasionally. Three or four rowels were also inserted in parts where the skin was loose.

A stud of colts and mares, of various ages, were attacked with this distemper. Some had a discharge from the eyes, nose, and mouth;

some had swellings on the udder, shoulder, or under the jaw. They were taken to a house, bled, and rowelled, and had nitre given to them; by which treatment the disease was soon cured, except in the sucking foals. When swellings appeared on any part, they were opened, as soon as matter had formed in them. Some had several setons inserted in the depending part of the swellings, with a view to draw off the febrile matter; but this treatment proved unsuccessful, the tumor neither advancing nor receding. The setons were then taken out, and no medicine given, and in a few days the swelling came to good matter; which being let out the animal soon got well. But for the sucking foals no remedy availed; the disease baffling all the attempts of art and nature. If you bled them, a swelling, perhaps, came on the part, and would remain indurated for several months; hard swellings would also arise on other parts: in short, as long as they sucked the mare, the disease continued; but, upon being weaned, they soon got well.

He observes, that the distemper began in general with considerable weakness of the limbs; so that a horse would be seen to reel,

or stagger, when led from the stable; there was, generally, a dry cough; the eyes would suddenly become dim, glazed, or lifeless, and the horse showed no inclination to drink.

Osmer divides the distemper into five different classes, or degrees. In the first, beside the symptoms just mentioned, there was a coldness of the external parts, and the weakness was particularly observable in the hind limbs. There was also appearance of fever or inflammation. In this class of the distemper, bleeding uniformly did harm; and, if done largely, it generally proved fatal. Even when the horse was costive, no advantage was derived from clysters, and rowels appeared to do harm.

He advises the following medicine to be given three times a day, for a few days, or until the urinary secretions appear to be augmented, and the horse begins to drink freely; upon which, he generally becomes well on a sudden, recovers his limbs and his appetite, and is free from all complaints but his cough; which, perhaps, leaves him not entirely, until he recovers his flesh. The horse's diet, at first, should be hay and scalded bran; his drink should be moderately warm, and given freely.

Take of crude sal ammoniac		
and nitre, of each	. . .	1 oz.
Castile soap	. . . . . .	$\frac{1}{2}$ oz.
Camphor	. . . .	2 dr.

Mix, for one dose.

He particularly directs this medicine to be discontinued, as soon as the horse appears to be relieved, and the evacuation of urine much increased. He also advises that the horse be allowed a more nourishing diet; such as bran and oats scalded together.

In the second class, there is considerable fever, the external parts are hot and burning, and the horse appears to be affected in his head and sight. Here he recommends moderate bleeding and clysters, as well as the medicine directed for the first class. If the fever continue twelve hours, and the membranes about the eye appear inflamed, he thinks another moderate bleeding proper, which, he says, will generally be sufficient; but in this or future bleedings, the direction for so doing is to be taken solely from the tokens of inflammation; remembering, that, in this disease, horses can bear only the loss of a small quantity at one time. The blood of

horses labouring under these symptoms is generally very sizy; in which case, he considers rowels improper.

For such as are affected with soreness of the throat (third class), bleeding, clysters, and rowels, are all improper, unless there be manifest tokens of fever and inflammation; in either case, the medicine before directed is proper. These horses will eat bread and water gruel, if made thin. Soreness of the throat is indicated by a difficulty in swallowing. It is seldom accompanied with much fever, and their appetite for eating and drinking seems better than in those of the first and second class; but they are, in general, miserably reduced before the soreness goes off; which he does not consider as the effect, solely, of their fasting.

Fourthly. Others are seized, at first, with a cough only, and show little or no symptoms of illness. These, in general, have soon a discharge from the nostrils: they recover sooner than any, and frequently without assistance. He advises, however, rowels and a diet of scalded bran.

Fifthly. In others, again, an abscess or boil appears soon after the cough, in some part of

the head or body, which sometimes soon comes to matter. In others, their lives are manifestly endangered before an imposthumation can be obtained, even with the assistance of art. In this class of the distemper, he advises the application of poultices to the swelling, in order to bring it to matter as speedily as possible, and the medicine before directed for the first class, &c.

By these different methods, he says, he has saved the lives of many horses; having lost a few only out of a great number. But he acknowledges, that when the distemper first appeared, he endangered the lives of many.

Vegetius describes an epidemic, or what he considered a contagious fever, which corresponds nearly with Osmer's; only he divides it into two classes: he recommends oily injections into the nostrils, anointing the head with oil and keeping it warm; and giving a mixture, of diapente a large spoonful, and old wine a pint: this is to be given daily, the dose of the diapente being gradually increased to two spoonfuls. He recommends, also, something similar to rowels.

It will appear, no doubt, to the attentive reader, that Osmer's description has the ap-

pearance of being the result of careful observation. There is also a degree of candour in his confessing, that, previous to his having attentively studied the nature of the distemper, he endangered the lives of many horses; which certainly deserves praise.

With respect to the description of Vegetius, though some may value it for it's antiquity, it will probably be thought, by most persons, that his prescribing a mixture of *old* wine and diapente was by no means judicious, particularly if the operation of mixing these ingredients was left to the groom; who, possibly, might be tempted to drink the one and throw away the other.

I THOUGHT it necessary to give at some length the observations of Osmer on the Epidemic, which prevailed in his time, as he appears to have bestowed considerable attention on the subject, and to have treated it successfully.

The first epidemic I had an opportunity of seeing occurred in the summer of 1798, when, in some parts of this country, it proved very

destructive; generally, however, there is reason to believe, from it's being improperly treated. The most common symptoms of the disease were, cough, dullness of the eyes, and disinclination for food or water; seldom, however, was the appetite for either altógether lost. These symptoms were soon followed by a discharge from the nostrils, soreness of the throat, causing more or less difficulty in swallowing; sometimes to such a degree, that, in attempting to drink, the water would return through the nostrils, and some of the horse's food might be seen mixed with the matter discharged from the nose: this was more conspicuous when grass was given to the horse, as the discharge would then be of a greenish colour. Sometimes a horse would appear extremely weak, nearly at the commencement of the disorder; and, almost in every case, the strength declined very quickly. There was also, in general, a proportionate loss of flesh.

When called in, at the first appearance of the disease, I generally found it necessary to bleed, sometimes freely, that is, to the extent of a gallon: this was thought particularly necessary when the horse breathed quickly

(which may be seen by the motion of the flanks and nostrils), had a quick pulse, and if the inner surface of the upper eyelid was unusually red. If, in such cases, the above symptoms had not abated much in six or eight hours, and particularly if the blood, that had been drawn, was sizy, that is, if it's surface was of a yellowish or buff colour, the bleeding was repeated; but this was not often found necessary. If the bowels were rather costive, a mild laxative was given and a clyster; but, when these did not appear necessary, nitre was given morning and evening. In cases where there was such soreness of the throat as to cause difficulty in swallowing, no medicine was exhibited, unless there were symptoms which urgently demanded it; and then only in a liquid form. To relieve the soreness of the throat, blistering ointment was applied under the ears and throat; a rowel under the jaws was also tried with the same view, and found useful. Blistering, however, appeared to be the most active remedy, though it sometimes proved inconvenient, from the horse rubbing the blistered part against the manger. When considerable weakness was observed, the horse was freely supplied with

oatmeal gruel or malt mashes, and, if the throat was not sore, tonic and cordial medicines were given.

It is necessary here to observe, that it is seldom, if ever, proper to give cordials or tonics at the commencement of the disease; and, even when they appear proper at a later period, it should first be ascertained, that there are no inflammatory symptoms; nor should the use of these ever be persisted in, when they appear to cause uneasiness in the horse, to diminish the appetite, or increase the frequency of the pulse.

We generally find, that, during the spring and the early part of summer, a catarrhal disease is very common, particularly among young horses, which has some resemblance to that just described. During the present season a disease of that kind has been very prevalent. It has attacked horses at grass, as well as those kept in stables; in short, it has occurred under a variety of circumstances; and, though young horses have appeared most obnoxious to it, many aged horses have also been attacked.

The most common feature of this disease is a cough with soreness of the throat; this symp-

tom, however, does not always occur at the beginning of the disorder, but often comes on during it's progress. The cough is commonly the first symptom that attracts notice, and is generally accompanied, even at first, with a loss of spirit and appetite. When a horse is worked much in this situation, the disease is rendered very tedious; and it is often a considerable time before he recovers his strength, or gets rid of the cough. A discharge from the nostrils generally takes place after two or three days; sometimes the matter is of a whitish colour, like that of strangles, which may be considered a favourable symptom; at others, it is mixed with the horse's food, and consists in great measure of what he endeavours, but is unable, to swallow. This indicates inflammation of the throat, and requires the immediate application of a blister.

In almost every case of this disorder I have met with, particularly when called in at it's first occurrence, bleeding has been proper; and, in some instances, where it attacked with great severity, the pulse much increased in frequency, the breathing quicker than usual, the under surface of the upper eyelid very red, and the first drawn blood sizy, or

thickly covered with buff, I have found advantage in repeating the bleeding, in some cases, twice or three times. But this must be done with great caution: every quantity of blood, that is taken off, should be preserved for examination; for, when it is found to be free from buff, any farther evacuation would be improper.

Horses labouring under this disorder should be carefully attended to; for it sometimes happens, when the horse is supposed to be going on well, and no danger suspected, that he is suddenly attacked with quickness of breathing, and other symptoms denoting approaching inflammation of the lungs. If at this time a large quantity of blood be taken off, the horse will be relieved, and a dangerous inflammation of an important organ will be averted.

The disease has sometimes occurred in so mild a form as to require only a little nursing for it's removal. It is always proper, however, to lay up the horse, and attend to him carefully; as the disorder has, in some instances, suddenly assumed a more serious appearance, without any visible cause.

To attempt to work a horse in this distem-

per, in however slight a degree it may occur, s highly improper: in several cases of this kind, that have come within my notice, the horse's life has been endangered, and such debility produced, as to render him useless for a considerable time, and an incurable cough is not an unfrequent effect of such imprudence.

Having thus given a detailed account of the epidemic, which occurred in Osmer's time, as well as that which has fallen under my own observation, it may be proper to remark, that, notwithstanding the apparent complexity of the symptoms in Osmer's description, from his dividing the disease into five classes, and the difference between his and that I have given, they are really the same kind of disorder, though different in degree; and this difference may be traced in all epidemic diseases. A careful examination and comparison of them, however, will prove, that there is no essential difference in our mode of treatment. The remedy he recommends I certainly cannot approve of, considering it too strong a diuretic; but any thing, that will increase the urine in a moderate degree, particularly when there is no difficulty in swallowing, or considerable weak-

ness, I think, would be highly proper. Nitre is, in my opinion, the best medicine for this purpose, in doses as before stated. Perhaps some advantage may occasionally be found (that is, where there is any appearance of debility and want of appetite), by mixing with it some powdered aniseeds and treacle.

I cannot, however, conclude this subject—for it is really one of importance, as it regards horses—without endeavouring to impress upon the reader's mind the necessity there is, in these cases, of the strictest attention on the groom's part; I do not know any disease, which requires so much diligence and nursing, as that I have been describing.

Practical Observations on an Epidemic Disease, that has lately prevailed among Horses.*

THE most serious Epidemic, that has occurred for several years to horses, made it's appearance about the latter part of April last (1815); and, during the months of May and June, raged with great violence. In many places, though the symptoms have been alarming, and much inconvenience has been suffered from the suspension of the animal's labour, and the expense of medical attendance, it does not appear to have destroyed many horses, while, in others, it's fatality has been

* The continuance of this distemper has caused some delay in the publication of the work, as a minute description of it's symptoms and treatment was thought a useful addition.

Some cases of canine madness, also, having lately occurred, the author has taken the opportunity, thus offered, of making some addition to that subject, particularly an extract from Mr. Gillman's ingenious dissertation on *Rabies Canina.*

more considerable; but, in the metropolis, it is said to have been highly destructive.

Though much has been written on the epidemic diseases of cattle, and many conjectures suggested as to their origin or causes, it does not appear, that much light has been thrown upon the subject. It must be allowed, however, that such attempts were highly laudable, as they were considered the only probable means of discovering a mode of prevention, or such a method of treating the disease as might effectually arrest it's progress, before it's calamitous effects were materially or generally felt.

With respect to the contagious nature of epidemics, perhaps much may be said both for and against the opinion; and, though no great advantage has hitherto resulted from the inquiry, it is certainly a subject of high importance. If we read the accounts of Ramazzini, Lancisi, and other ancient writers, scarcely a doubt will be felt of the contagious nature of such diseases. So destructive indeed have they been at some periods, as to cause the most serious alarm, particularly about the beginning of the last century.

According to Lancisi, there died in the

Ecclesiastical States, from October 1713 to April 1714, 8466 oxen used for ploughing, 10125 white cows, 2816 red cows, 108 breeding bulls, 427 young bulls, 451 heifers, 2362 calves, 862 buffaloes male and female, 635 young buffaloes; in all, 26252 cattle in seven months. This writer thinks, that, if the computation had begun from the 2d of August, the number of cattle that perished would have amounted to 30,000.

It is fortunate for mankind, that so dreadful a pestilence has not happened for many years, though epidemic diseases of a much less formidable nature have several times appeared. By referring to a meteorological journal of the last two months (May and June 1815), it will be seen, that the weather has been extremely variable, and that rain and cold winds have been more prevalent than usual, and the preceding winter unusually mild. It should be observed, also, that it was a part of the year when catarrhal complaints, or colds, are very common among young horses. How far the combination of these causes may have produced and continued the late epidemic, independently of contagion, I will not pretend to determine; it appears, however, from the in-

quiry I have made, as well as from my own experience, that the disease has nearly ceased since the warm weather set in; while wet and cold weather has uniformly aggravated it, or proved favourable to it's production.

Gibson describes an epidemic in some respects similar to that which has lately occurred, and which he is decidedly of opinion was very infectious. He says,

"About the end of the year 1732, there was a remarkable distemper of this kind, among the horses in London, and several other parts of the kingdom. They were suddenly seized with a dry, vehement, and sounding cough, which shook them so violently, that some of them were ready to drop down with hard straining and want of breath. Their throats were raw and sore: many of them had their kernels swelled and sore to the touch. For the first two days most of them refused all manner of food, as well as water, and had so many other bad signs, that, when the distemper first broke out, many were afraid of a mortality coming among them. A running at the nose generally began the third day, and continued in so profuse a manner for five or six days, that some of them discharged as

much, in that time, of purulent matter, as two or three pails would hold. While the running at the nose continued, they did not feed much, though their appetites were craving, because the matter mingled so with their food as to make it altogether disagreeable, so that they lost their flesh exceedingly; but, as soon as the running abated, they ate voraciously, and soon recovered their strength. This distemper, though no ways mortal, *yet was so very catching*, that, when any horse was seized with it, I observed that those, which stood on each hand of him, were generally infected as soon as he began to run at the nose. While this sickness lasted, above a hundred of the troop horses under my care were seized with it. I always caused the sick horses to be removed from the sound, as soon as they were taken ill, and put into an hospital stable. The method I followed of curing this malady was simple and easy: I ordered them, as soon as they were seized, to be *bled plentifully*, which gave them a *sensible relief;* for, at first, many of them were feverish, and very short breathed; afterward, I gave them soft balsamics and detersives, such as the following drinks: —

"Coltsfoot, hyssop, and camomile flowers, of each, a handful.

Fresh linseed and garlic, of each .	1 oz.
Liquorice root, cut into thin slices	1 oz.
Saffron	$\frac{1}{2}$ oz.

"To be infused in two quarts of boiling water, one part to be taken in the morning, the other in the afternoon.

"With these drinks were given balls, made with the warm aromatic pectoral powders (cordial balls), mixed with honey, balsam of sulphur, and oil of aniseed; and where the phlegm appeared tough and raised, about four ounces of linseed oil; and, in some cases, about half a pint of white wine, with a few ounces of oxymel of squills. Their diet was chiefly bran mashes; and the cure was perfected by air and moderate exercise." Vol. i, p. 375.

From this it appears, that Gibson considered it a contagious disease, and that his principal remedy, which he says *gave them a sensible relief*, was *plentiful bleeding*. In the late epidemic, though several horses were attacked in the same stable, and sometimes even a whole team, either nearly at the same time,

or in succession, I do not think it was contagious, as many horses escaped, that stood in the same stable with such as were diseased. Draught horses appeared to suffer more from the distemper than others, particularly where they were exposed to sudden changes, as in post or coach work. Hot, ill ventilated stables seemed particularly favourable to it's production and progress; and horses that were fed high appeared more susceptible of the disease than others. Young horses were more frequently attacked than old ones. Horses in regular but not immoderate work, and fed accordingly, appeared to suffer less than any others; and I have been informed by a person, who lately came from Woolwich, that among the horses of the Royal Artillery, in that barrack, the disease had not been observed. Horses, however, in all situations, appeared at times to be attacked by this distemper, nor were those at grass always secure from it.

The first symptoms were, generally, a troublesome cough, dulness of the eyes, quick pulse, and loss of appetite. Sometimes it began with violent shivering, quick pulse, and laborious respiration. A discharge from the nostrils generally took place within a week

from the commencement of the disease, which sometimes was very copious, though not so abundant as in the epidemic described by Gibson; nor did it in any instance smell offensively, or prevent the horse's feeding, though it frequently had a very disgusting appearance, not unlike the discharge from the nose of a horse badly glandered. When the attack was slight, the disease often disappeared gradually, without any discharge taking place. Though horses generally appeared to be relieved in some degree soon after the nostrils began to discharge matter, this was by no means uniformly the case. In several instances, I have seen them very seriously attacked after that period. So often, indeed, and so suddenly did it happen, that I am inclined to consider it as a characteristic symptom of this distemper. The following cases may serve as examples of this.

CASES OF DISTEMPER.

N° 1.

A waggon horse had been labouring under this disorder, and for two or three days had been discharging freely from the nose: about

this time he was seized suddenly with quickness of breathing, as if inflammation of the lungs were approaching. He refused his food: pulse about 90; and a remarkably strong pulsation of the temporal artery. Four quarts of blood were taken off; and, about an hour after, as the horse did not appear to be relieved, or the pulse altered, there being likewise a very thick coat of *buff* or *size* upon the blood, the operation was repeated to the same extent as at first. From this time the horse gradually recovered; the medicines and treatment to be described hereafter having been employed after the bleeding.

It may be proper to observe, that the quantity of blood drawn in this case was more considerable than is usually found necessary at so late a period of the complaint. I was induced, however, to repeat the operation, by seeing no abatement of the symptoms, by the continuance of that remarkably strong pulsation of the temporal artery, and by the sizey state of the blood.

It has been generally held as a maxim in farriery, that bleeding should be avoided, either in the epidemic or common cold, as soon as the nostrils discharge freely; in this distemper,

however, I had often occasion to bleed in such circumstances; and the immediate relief it afforded, and the gradual recovery that followed, certainly prove the propriety of the practice.

N° 2.

A draught horse, about seven years old, had the distemper about a week: he had recovered his appetite; the cough appeared to be getting better, and the discharge from the nostrils was considerable. At this time he was suddenly attacked with violent shivering, quick pulse, and laborious breathing. About a gallon of blood was taken off, which quickly relieved him; and, by adopting the treatment to be described, he gradually recovered. Cases like the foregoing often occurred, and it is sufficient to state, that, in every instance, the animal was relieved by bleeding.

In some horses troublesome abscesses formed under the jaws, as in strangles; but this symptom did not often occur. It is remarkable, however, that three cases of this kind happened in one concern, and I can only

account for it by the proprietor having given them some stimulating powders, mixed with beer. In one of these cases, the swelling was so considerable as nearly to prevent the horse from swallowing, and so impeded respiration, that, in attempting to move him from the stall, he fell, and was immediately killed by the blow. On examining the body, two abscesses were found near the top of the gullet, full of white matter, and the surrounding parts were considerably thickened by inflammation: but the most remarkable appearance was a tumour, about two pounds in weight, attached to the outside and posterior part of the stomach; it consisted of a membranous sac, completely filled with white matter. The other two horses gradually recovered.

From the description I have given of this distemper it will appear, that it does not differ materially from those already described, or the epidemics of Gibson and Osmer, except that the latter observes, "whenever there was a discharge from the nose, bleeding appeared to do harm." In this, however, several horses were bled freely when there was a copious discharge from the nose, and were uniformly relieved by it, as in the cases before stated.

The sudden attack of shivering, laborious breathing, and other symptoms of fever and approaching inflammation of the lungs, which often happen unexpectedly, after a discharge from the nose had taken place and the horse was thought to be doing well, seems also to constitute a peculiar feature in this distemper.

From a careful consideration of the writings of Gibson, Osmer, and other respectable authors on this subject, as well as from my own experience, I am satisfied, that the only remedy to be relied upon in the epidemic diseases of horses is *early* bleeding; not in the small quantities sometimes recommended, but to the extent of three, four, or even five quarts; and this may be as freely *repeated*, after a short period, should a continuance of the symptoms render it necessary. Cases may sometimes occur, which require only moderate bleeding; and some, perhaps, though rarely, in which bleeding is improper; but these are easily distinguished — the general weakness of the animal, which may be seen when he is led from the stable; the feebleness of the pulse, which is seldom much more frequent or quick than in health; the light, or almost white colour of the inner surface of the upper

eyelid; in short, the absence of all febrile symptoms, cannot fail of pointing out such cases to a careful observer. The blood should always be preserved for examination; for, when it is slow in coagulating, and has a thick coat of buff or size on it's surface, we generally find a second bleeding necessary, and should carefully avoid all stimulating or heating medicines.

If the dung is at all hard, a dose of opening medicine is proper, such as the oily laxative in vol. ii, p. 217. After the operation of the laxative, or, should that medicine be found unnecessary, from the bowels being already open, that is, if the dung is of a yellow colour, and rather soft than otherwise, the following ball may be given morning and evening, so as to increase the horse's urine in a moderate degree.

When green food can be procured, it should be given with moderation (tares or vetches should be preferred); but, if nothing of this kind can be had, bran mashes are most proper. When the horse appears much weakened, and the inflammatory symptoms have in great measure subsided, a small quantity of oats may be given twice or three

times a day. Should swellings appear under the throat, or other parts, fomentations and poultices are proper, in order to promote suppuration; and when it is ascertained that matter has formed, the tumours should be opened.

When the weather is favourable, convalescents may be turned out for a short time during the day, but on no account should they be exposed to rain, cold winds, or an intense heat. Horses recovering from the distemper require considerable attention, as the cough is very apt to return, and often proves difficult of cure by neglecting this circumstance.

I have now only to add, that, in this epidemic, like that we have before described (p. 174), when soreness of the throat occurred, blistering was resorted to, and the exhibition of medicine suspended until swallowing became less painful and difficult, and then it was first given in a liquid form.

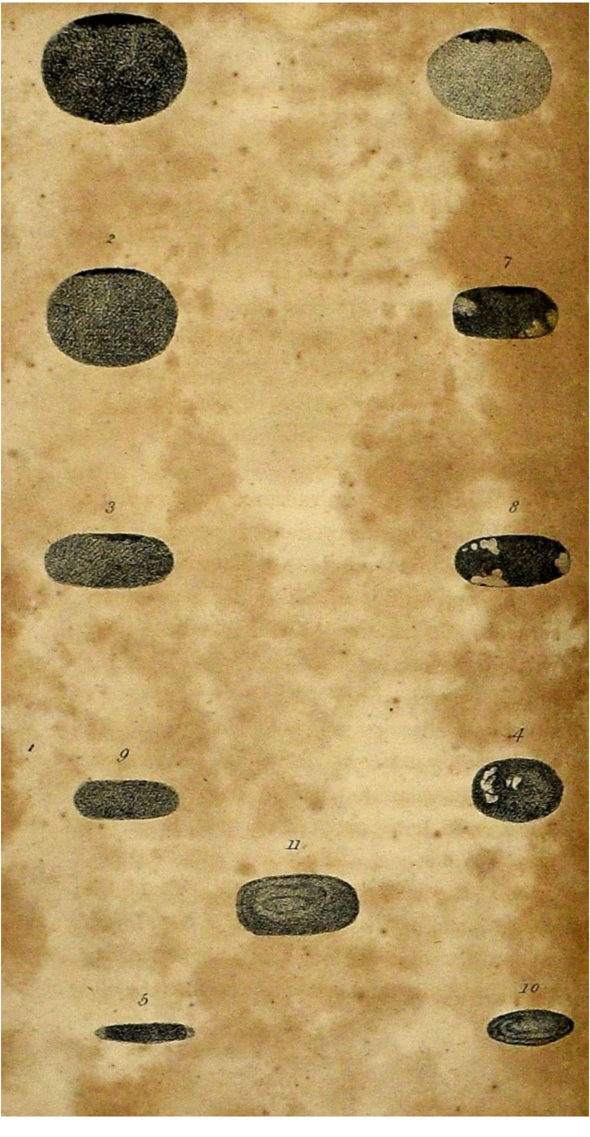
I thought it necessary to treat thus minutely of the late epidemic, as well as of that which occurred in Gibson's time, as it serves to confirm the propriety of the treatment I have before recommended; and seems to warrant

the conclusion, that, on all such occasions, bleeding has been found the grand, the essential remedy.

BALL FOR THE DISTEMPER.

Nitre	½ oz. to 6 dr.
Antimonial powder	2 dr.

Linseed meal and honey enough to form a ball for one dose.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OBSERVATIONS

ON

DISEASES OF THE EYE.

IN Vol. iii I have endeavoured to give some useful hints to inexperienced persons, who have occasion to purchase a horse, and have not an opportunity of consulting a veterinary surgeon. In addition to what has been there written, respecting the examination of the horse's eyes, I wish to observe, that the best situation for this purpose is the stable; that is, the horse should be turned round in the stall, or brought near the stable door, so that only a moderate light may fall upon the eye; we may thus have a distinct view of the pupil, or, as it is commonly termed, the apple of the eye, which, in the horse, is of a dark bluish colour, and of an oblong form, the long diameter being in the horizontal direction.

The following sketch may, perhaps, give the reader a better idea of the form of the pupil than can be conveyed by any description. The size of the pupil varies according to the degree of light to which the eye is exposed. When placed under the stable door, with his face to the light, both pupils should be exactly of the same size, and, as he advances more into the light, both should contract equally; but, if they remain unaltered in their dimensions, even if exposed to a still stronger light, it shows that they are affected with the disease named gutta serena: or, if any inequality be observed in the pupils, when thus examined, it may safely be inferred that one of the eyes is diseased.

A cataract is easily distinguished, when completely formed, by the white or pearl colour of the pupil; but in it's incipient state it is not so easily detected, as the pupil is then only rather of a lighter colour, or more cloudy than natural. A partial cataract is not of so much importance as it is commonly supposed to be, particularly when the white or opaque spot is but small, and situate near the margin of the pupil: but when it is larger, or if there be more than one speck, and in the

centre of the pupil, it proves a serious impediment to vision, and causes the horse to start.

When horses are kept at grass during the hot months, they are sometimes so stung about the eyes, that considerable swelling takes place, and they appear to be seriously affected. The inflammation is not of much importance, and soon goes off, if the horse be taken, and the eyes frequently bathed with the following lotion, cold:—

Take of acetite of lead . .	2 dr.
Distilled vinegar	1 oz.
Soft water	$1\frac{1}{2}$ pt.

Mix.

Let the mixture stand until it has become perfectly fine, the transparent part is then to be poured off for use.

Inflammation of the eye is often produced by blows or bites, in which case the above lotion is to be used and continued until the inflammation has perfectly subsided; after this there sometimes remains an opacity, or *film*, as it is commonly termed, upon the cornea, or surface of the eye. In vol. i, stimulating

powders have been recommended for the removal of this appearance, and are certainly very efficacious remedies, if not applied too early. The use of the above lotion should be persisted in, in such cases, until the *inflammation* and *weakness* of the eye are perfectly removed; and even then I think it the safest plan to try, in the first place, the following mixture, a small quantity to be introduced under the eyelids twice or three times a day: this is most conveniently done by dipping a very small bit of clean sponge into the mixture, and, having separated the lids with the finger and thumb, squeezing it against the corner of the eye: the motion of the lids will diffuse it equally over the surface. It may be applied also by means of a syringe. I have known the same mixture do good in old horses, when the pupil is unusually open, and rather muddy, as it is termed; it appears to strengthen the nervous structure of the eye, and improve vision in a considerable degree.

With respect to the disease named *Cataract*, there is certainly no remedy for it in the horse, and I believe a cure is never attempted, even by *farriers*; but as couching is by no means a difficult operation, when the horse is properly

secured, it may be worth while to inquire, whether, in recent cases of complete cataract, a small degree of vision may not by such means be restored, so as to allow of a horse being kept at grass without danger of falling into ditches, or otherwise injuring himself. I have not yet made the experiment, but have several times couched a horse, and found no difficulty in performing the operation. It is worth remarking, that, in all the cases, the operation was not followed by inflammation of the eye.

As to the operation often performed by farriers, of cutting off what are termed the *haws* of the eye, I have heard of it's having been performed with advantage, but having never seen a case which appeared to require such an operation, and as in the cases where it has been proposed to me it must, in my opinion, have proved injurious, I confess it is a point upon which I feel rather incredulous.

EYE MIXTURE.

Take of acetate of lead . . .	2 dr.
Sulphate of zinc	$1\frac{1}{2}$ dr.
Soft water	12 oz.
Tincture of opium . . .	2 oz.

Mix.

To be strained through blotting paper, or suffered to stand until it has become perfectly transparent, then decanted off for use.

OBSERVATIONS

ON

HYDROPHOBIA.

TWO well marked cases of canine madness have recently occurred in this city and it's neighbourhood (Exeter, July 17, 1815). The first dog was seen to bite several others; and, as he wandered about the country, it is probable that many more were bitten by him. The situation this dog was seen in leaves no room to doubt of his having infected the second. This dog, having been absent from his home one night and part of the day, returned and was secured. It has not been ascertained what mischief he did in this time, but, in securing him, he bit three persons, and was then kept tied up until he died of the disease.

After the first dog had been destroyed, a notice of the circumstance was issued by the

mayor, requesting the inhabitants of Exeter to confine their dogs: after two or three days, however, they were suffered to run about the streets as if nothing had happened. When it was known that the second dog had died mad, the mayor published another handbill, offering a reward of half a crown a head for destroying any dogs that were seen in the streets of Exeter. Notwithstanding this order, I have seen several dogs loose yesterday and this morning. I mention this circumstance merely to show how inattentive people frequently are to matters of the greatest importance, and how little aware they seem to be of the magnitude of the danger, which this prudent precaution of the mayor was intended to avert.

In the year 1808 so many instances of canine madness occurred in London, that the physicians and surgeons of the London hospital represented to the house committee of that institution (Oct. 14), that "within the last three months two cases of hydrophobia had been received into the hospital; that many instances of the same fatal and dreadful disorder, within a short period, had come to their knowledge; that several persons and animals had very lately been bitten by dogs

unquestionably mad; and that, in their opinion, it was highly necessary that these facts should be stated to persons in high authority, in order that proper measures should be taken for the public safety." A report was accordingly made to government, and a copy of it sent to the mansion house; in consequence of which a suitable notice was immediately issued by the lord mayor.

It has been observed, that this dreadful calamity has been more frequent of late years than it was formerly, which will not appear so extraordinary when it is considered how many useless dogs are suffered to run about the streets, and the little caution that is used, even after a mad dog has been known to bite several animals. The following description of the disease I have taken from Mr. Gillman's ingenious dissertation upon the subject, as it appears to be the most minute and accurate I have yet met with.

"The animal always shows some marked deviation from his accustomed habits; a symptom which ought to be particularly regarded. In lapdogs some strange peculiarities have been observed, as the picking up of the dif-

ferent little objects, such as paper, thread, &c., or any thing, which may happen to be presented to their notice. They have sometimes been observed to eat their own excrement, and lap their own urine; these last, perhaps, are the strongest proof of rabies, and should put us very much upon our guard, as this depraved appetite seems peculiarly to denote the complaint: still, however, in this stage of the disease, they seldom attack any one unless provoked to it. It must be remembered, that though a dog's temper remains meek, and often continues so during the whole of the disease, yet he is easily alarmed. He often preserves the same obedience to his master, and shows the same degree of attachment; but still he is extremely *irritable*, and always *treacherous*, suffering any one to fondle him, and then suddenly snaps or bites, with almost the least apparent provocation. As the malady goes forward, his eyes sometimes become inflamed, and a purulent discharge issues from the lids. The pharynx, in some cases, has become so much swelled as to render him incapable of barking; this sign has been noticed by sportsmen, and termed dumb madness.

When deprived of this power he makes a dismal howl, which is so well known, that, when once heard, it cannot be mistaken; nevertheless, this is not a universal symptom. The incipient stage of the disease has been marked by many writers with the loss of appetite, indifference, listlessness, and melancholy; but these cannot be relied on, and attend other complaints to which dogs are liable. Neither have they the least dread of fluids; and often eat voraciously."

This, Mr. Daniel observes, is a fact of great importance, as it points out the dangerous policy of considering hydrophobia as a leading characteristic of rabies. Mr. Gillman's observation is corroborated by other practitioners. Dr. Clarke, of Nottingham, relates a case, in that neighbourhood, of a dog, that was not suspected to labour under rabies, until ten days after he had bitten an unfortunate person, who, in six weeks after the bite, died of hydrophobia. This dog ate and drank heartily, showed no signs of indisposition, hunted as usual, and occasionally went into a neighbour's house among children without injuring them; but, on the morning of the tenth day (that is, ten days after he communicated the disease by

the bite), he was seen snapping at every dog in the street, and was in consequence destroyed.

"I have," continues Mr. Gillman, "had several patients, who were bitten by dogs decidedly rabid, and which ate and drank a few minutes before and after they had committed the act; consequently, on such statements there can be no dependence. As the disease advances, the dog becomes extremely impatient, and has an inordinate desire to gnaw every thing around him. He is now seized with a more than usual antipathy to cats. When chained or confined he makes the greatest efforts to get loose, and, if successful, he wanders about, seeking other creatures to bite, more particularly some of his own species. From a bite in this stage of the disorder the consequence is most to be dreaded, and the greatest care should be taken to avoid him. It has been generally a received opinion, that he moves not out of the road to bite any one; but this apparent indifference never takes place until he is nearly exhausted by the disease, and becomes incapable of the effort; for while he is most active, he is industriously seeking for different objects to bite, to which his atten-

tion seems solely directed. It has been before remarked, that he does not avoid water, and frequently laps it greedily: still, at this period of the disorder, he is often without the power of swallowing it. Another, and not an unfrequent attendant on rabies, is inflammation of the bowels, which may be considered as having taken place when the dog sits on his rump, in apparently great pain, and very often appears to be paralytic behind. At this last crisis all the symptoms are aggravated; he now becomes extremely feeble; his jaw drops, as if paralysed, and the saliva runs from his mouth; he wanders, or rather staggers about, with scarcely the power of biting, and, exhausted by the disease, dies generally on the fourth or fifth day from it's commencement."

No remedy has hitherto been discovered for this dreadful malady, though profuse bleeding is said, in one case, to have succeeded. Mr. Thomas has very properly observed, in his "Shooter's Guide," that when this disease happens to a dog "the best cure is hanging."

It is but justice to Mr. Daniel, who is an advocate for *worming* as a means of preventing a dog from biting when he becomes mad,

to add, that he has stated a case, which seems to corroborate his opinion.

"A mad dog got amongst, and bit many of the harriers of Mr. Hodden, of Fountainstown in Ireland: the canine madness was communicated, and the hounds, in a short time, were biting and tearing each other to pieces; but it was particularly remarked, that such of the dogs as had been wormed died without any of the symptoms of that fury, which actuated the others."

Mr. Daniel says, that those, who have been most sceptical upon this point, and have for years laughed at the idea, have been compelled by ocular demonstration to confess, that the animal was rendered by the operation totally harmless.

It may afford some consolation to those, who may be so unfortunate as to be bitten by a mad dog, and unable to procure immediate medical assistance, that there is a considerable probability of preventing the disease, though the bitten part is not cut out till two or three days after the accident; the earlier, however, it is done, the security, of course, is more complete. It has been observed, that there is always a peculiar sensation in the

bitten parts preceding the accession of the disease, though the wound has been completely healed; from which circumstance there is reason to hope, that the removal of the part may be of use after a considerable interval, and, consequently, it always, if possible, should be done.

Mr. Gillman observes, that, in the determination of the question as to the precise time when the extirpation of the parts infected by the bite may be performed, it is of great importance to consider whether the poison does not always remain in the substance where it is first diffused, until, by inflammation or some other cause, a sufficient dose is generated to infect the whole system. Indeed, the notorious connexion of a painful and inflamed state of the original wound, immediately preceding the constitutional symptoms, warrants this supposition, and points out the expediency of removing or destroying the infected parts to the last, although the symptoms of hydrophobia should have commenced. He adds, that the excision should embrace a large portion of the surrounding parts, when the period from the infliction of the wound is much protracted. A dog, that died mad, was carefully

examined; and it was found, that the stomach was the only organ that showed any morbid appearances, except that there seemed to have been a slight degree of inflammation in the pia mater, a delicate membrane immediately investing the brain.

Since writing the above, a dog has become mad at Exmouth, and, after wandering about and biting some dogs and other animals, was destroyed in a neighbouring village, Lympson.

EXPLANATION

OF THE

PLATES IN VOL. IV.

PLATE I

Is intended to represent three instruments used in performing the operations of farriery.

Fig. 1. The firing iron (p. 155).

Fig. 2. The hobbles (p. 132).

Fig. 3. The iron for searing the spermatic cord after the testicle has been cut off (p. 140).

PLATE II.

Fig. 1. The instrument named clams, used in castrating horses (p. 140).

Fig. 2. The instrument for cutting off a horse's tail (p. 152).

PLATE III

Represents the manner of applying the hobbles, as well as the different modes of firing (p. 133).

Fig. 1, represents the method I have adopted: and the disease for which it is supposed to have been performed is a curb. (p. 155.)

Fig. 2, shows the same mode of firing, but the disease intended to be shown is a spavin.

Fig. 3, is to show the penniform lines; and this form is most commonly preferred.

It must be recollected, however, in examining the plate, that the opposite side of the leg is supposed to be fired also in the same manner.

Fig. 4 is a method not usually employed.

Fig. 5. The method formerly (perhaps at this time) practised at the Veterinary College.

PLATE IV

Represents the new method of cons[illegible]ting a stable (p. 165).

A, the hay crib, or rack.

B B, the mangers.

C, the partitions, which may be made considerably less than is here shown, should it, on account of economy, be required, as it is merely intended to prevent the horses fr[illegible]n-terfering with each other when eating their corn.

D D, two halters, with the plugs attached to them.

with two posts, from which *bails* pass to the partition; this, however, is not of great importance, and need not be adopted, except where horses are very liable to kick their neighbours.

c, the bottom of the hay crib, which may be either made as a drawer, to remove the hay seeds occasionally, or boarded up.

PLATE V.

Represents the horse's eye in a diseased and in a healthy state (p. 197).

Fig. 1. A morbid dilatation of the pupil of the eye. The black, or dark brown substance represented at the superior margin of the [illegible] is a natural appearance, though sometimes [illegible] mistaken for a disease.

Fig. 2. The pupil dilated in a less degree, with an incipient and general opacity of the part.

Fig. 3. The healthy state of the pupil in a moderate light. It should be observed, that, as the pupil enlarges, it approaches to the circular form, as in Figs. 1 and 2; and, by contracting, the horizontal diameter is lengthened, as in Figs. 4 and 5.

Fig. 4. The state of the pupil when the horse is brought out of the stable and placed in the shade.

Fig. 5. The form of the pupil when the eye is exposed to the direct rays of the sun.

Fig. 6. Appearance of the pupil when the eye is affected with cataract.

Fig. 7 represents a partial cataract; that is, the appearance of white or opaque spots in the pupil. In this case, a considerable portion of the pupil is free from those spots, particularly the centre; so that vision would not be materially impeded.

Fig. 8 represents a similar disease, with some slight variation as to the situation of the spots.

Fig. 9. A more circular pupil, with opacity in the centre and on one side.

Fig. 10. A contracted pupil with considerable opacity, causing almost total blindness.

Fig. 11. A pupil of the natural size, with opacity in the centre, materially obstructing vision.

THE END.

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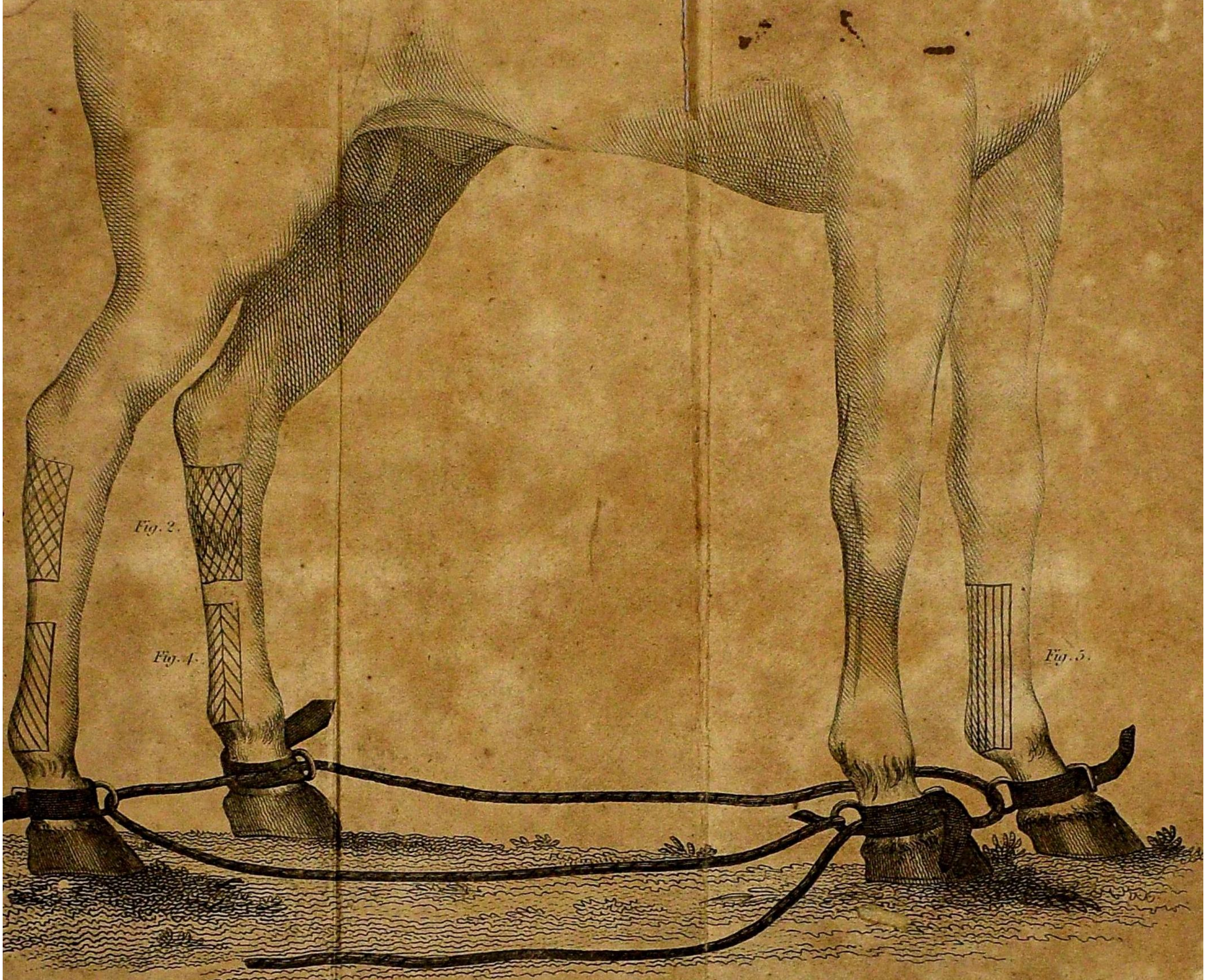

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